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A Lecture
ON
THE DESIRABILITY OF EARLY OPERATION IN ACUTE CASES OF APPENDICITIS,
TOGETHER WITH AN ANALYSIS OF 190 SUCH CASES OPERATED ON AT ST. GEORGE'S HOSPITAL.

Delivered at St. George's Hospital on June 29th, 1909,

BY G. R. TURNER, F.R.C.S. ENG.,
SURGEON TO, AND JOINT LECTURER ON SURGERY AT, ST. GEORGE'S HOSPITAL.

GENTLEMEN,—I wish to bring before you this afternoon my experience of operation on appendicitis during the acute stages. The question of its necessity may be rather hackneyed, but though much has been written and said about it, it is very far from being settled, and many valuable lives are lost because it is *not* settled, because there is a false and unjustifiable timidity in facing the necessary. We no longer hesitate as surgeons of 50 years ago did about operating at once on a strangulated or obstructed hernia. I submit that appendicitis, which may be nearly as dangerous, in the years to come should follow the good example of hernia and very rarely escape its antidote—early operation. Four years ago, in 1905, at a discussion before the Royal Medical and Chirurgical Society, initiated by Sir Frederick Treves, the experience of various large hospitals on acute and chronic cases of appendicitis was brought forward. On analysing these at the time of the discussion in 1905 I found the number of cases operated on between attacks in five large London hospitals was 1209; seven of these died, making a mortality of ½ per cent. Other cases, more acute, and operated on during the attack, were 1568, of whom 376 died, an average mortality of 23·9 per cent. Of 795 cases (not classified) operated on at another large hospital 136 died. The total number of cases altogether brought forward was 3572, and of these 519 died, an average mortality of 14·2 per cent. In a summary by Mr. Stephen Paget and Mr. Stanley Boyd published later it appears that there was in 1361 cases operated on *during a period of quiescence* a mortality of 1·1 per cent.; *abscess without general peritonitis*, 863 cases, 83 deaths, mortality 9·62 per cent.; *operations when general peritonitis was present*, 242 cases, with 177 deaths, mortality 73 per cent. Such, then, was the experience of London surgery up to 1905, but we must remember that these statistics included a large number, if not all, of the early operations when operators were less experienced than they now are, when cases were left longer, and the methods employed not nearly so safe or so satisfactory. For instance, in our own hospital here, St. George's, between the years 1892 and 1898 no less than 28 per cent. of the acute cases died after operation; between the years 1900 and 1905 only 15 per cent. We must remember, too, that more than half of the cases between the years 1892 and 1898 were admitted primarily into our medical wards and came, with the views of treatment then prevailing, under the surgeon's care later perhaps than they do now when it is the rule rather than the exception for them to go straight to a surgical ward.

Looking at these statistics, which give a mortality of only ½ per cent. or 1 per cent. for cases operated on between attacks, as against the terrible mortality of nearly 24 per cent. of those operated on during attack, it would seem at first sight that they suggest that operation during attack should not be undertaken; but I would ask you to remember that this great mortality of cases operated on during an attack was due to the fact that they had been left until *late*, and certainly in many cases until *too late* for satisfactory surgical interference; and in bringing before you this afternoon my own statistics of my operations on acute cases I am going to give you the experience of a surgeon who operates as early as he can, but not by any means as early as he would like. It is not the operation which is, or should be, the dangerous thing, it is the condition too often found at the time of that operation. Some surgeons go so far in their advocacy of early operation as to say that in a case seen *ab initio* by a medical man no abscess should ever be allowed to develop, and certainly if all cases, when a reasonably sure diagnosis has been made, were at once operated on abscess could not so often supervene, nor would other complications be found that have led in the past to the high mortality that was disclosed in 1905.

How often has waiting for a brief while seemed successful! The initial fever passes, the tenderness and abdominal rigidity perhaps subside, or nearly so. The bowels, duly castor oiled, act, and both patient and medical man hope and think the worst is over—for a day perhaps pulse and temperature are down to normal, and then possibly on the much-talked-of fifth or sixth day, or later, up the temperature runs, the pulse is once more rapid, the aspect of the patient changes, anxiety is on his flushed countenance, his tongue is furred and brown, his lips dry and cracked, his eye bright with fever, his abdomen becomes rigid, sometimes a mass can be felt in his iliac fossa, and then at length it is realised that abscess or even gangrene may be present. The latter conditions may be accompanied by but few general symptoms, but should always be suspected after an appropriate lapse of time. That general quietude may be associated with grave local symptoms is yet another argument for early operation.

Turning to my own acute cases, all of them hospital ones, for I prefer in the matter of statistics not to include private cases which cannot be verified, during the years 1894 to 1905 at this hospital I operated on 101 acute cases during the attacks: 57 of these had abscess, 6 of them died, 44 had no abscess, 4 of these died, making altogether a percentage mortality of under 10. During the years 1905 to 1909, tables of which cases by the kindness of Mr. G. D. H. Carpenter I have here, I operated on 89 acute cases during attacks: of these 36 had abscess and 3 of these died, and of the other 53 with no abscess 2 died, making an average mortality of under 6 per cent. Putting the whole of these *acute* hospital cases together, from 1894 to 1909 there are 190 cases with 15 deaths and an average mortality of 7·8 per cent. Were my acute private cases added this mortality would be reduced to about 6·5 per cent. Analysing these 15 deaths in the 190 hospital cases, in all the appendix was gangrenous, in nine cases abscess was present: one patient died on the table from chloroform, two were admitted almost moribund, one was complicated by abortion at the six month, seven had general peritonitis at the time of operation, and in two the sloughing had extended from the appendix to the neighbouring cæcum. I think I may say, therefore, that none of these fatal cases would have recovered without operation, and were I to exclude, as I reasonably might, the death from chloroform and those who were already all but moribund from peritonitis, the mortality of the hospital cases of 7·8 would be reduced to 6·3 per cent. I have had 39 cases running with only one death, and my last 42 cases without any, although many of these were gravely ill with sloughing of the appendix and abscess consequent thereon. I have never refused to operate on any case, however bad. These are not statistics of selected cases, but show the mortality of acute (often late) cases operated on during attacks, not the mortality of all cases, including those operated on between attacks; the consideration of the latter I am purposely excluding this afternoon.

Some years ago, and indeed now with many medical men, a policy of waiting was, and is, advocated—waiting till the clouds roll by; but sometimes they never do do this, and then the unfortunate patient is operated on under disadvantageous circumstances at a late period, when abscess, perforation, or mortification may be present; for not only has he waited, but usually his damaged intestine has spent the waiting time in resisting colon-disturbing enemata and the attacks of calomel and other noxious drugs. There was a time when, realising that abscess might be forming, some people advocated, and for all I know may still advocate, deliberate waiting until that abscess formed and the pus localised. With this treatment of so dangerous and uncertain a condition I cannot in the least agree. The causes of delay are many; too often the patient or his friends are responsible; sometimes an excess of examination by the latest scientific methods is only waste of valuable time; sometimes the doctors have "Let I dare not wait upon I would." Here is a typical case—alas! also a true one (not in my own practice).

A young woman experienced sudden pain on a Monday evening in the right side of the abdomen and was seen by a

medical man the next morning. The pain increased during the day and was very severe at night; abdominal distension came on, the temperature rose to 101° F, and the pulse was rapid; fomentations were applied and morphia was given. The blood was examined; there was no leucocytosis. By Wednesday the pain was severe and constant diarrhœa set in. There were great restlessness, constant pain, and increasing distension; a flatus tube was passed; more morphia was given. On the Thursday the pulse went up to over 150, the patient's colour and appearance became very bad, and an operation was performed late in the day. There were a large burst abscess and general peritonitis. In spite of transfusion and saline injections the collapsed patient died a few hours afterwards. Do not such cases cry aloud for *early* operation? Can they by any possibility be seriously taken as arguments against operating during an attack? Yet these cases or similar ones go to swell the statistics of mortality of "during attack" operations. What we want is the result of *early* as opposed to *late* operation and waiting, not the result of operations on "too late" cases. Do not be put off by the fatal quiet induced by morphia, by blood counts, or by diarrhœa; it is better to be "bloody, bold, and resolute"—to use your clinical instinct and not be afraid to do an early, and if early a safe and easy, operation.

In my list of cases you will not have seen, nor have I used the word "fulminating," although I know that some cases are as bolts from the blue, very rapid in their disaster and fatal, yet I think that these fulminating cases are fewer than is generally thought to be the case, and I cannot help suspecting that sometimes, not having perhaps properly realised the gravity of early symptoms, we may have got under the umbrella of fulmination to excuse the length of the latent period of our diagnosis. Burst abscesses and perforations of an already inflamed appendix may give rise to all the symptoms of fulmination. Let us consider for a while the arguments for and against early operation, and remember that I do not advocate it unless it is certain that there is something gravely wrong in the abdominal cavity. Appendicitis in all its stages comes under this definition. First of all it is argued, and reasonably, that one cannot be sure that appendicitis is present, especially perhaps in women, where the ovaries or uterine appendages on the right side may be the cause of the trouble. Rectal or vaginal examination is here specially indicated, though often exploratory operation alone can clear up the mystery. Like other surgeons, I have met with cases sent up for operation as appendicitis which simulated it, but were not appendicitis. Let me briefly relate to you one or two of these.

The first case was a woman, who two years previously had been in a large London hospital suffering from what was called appendicitis. When she came to St. George's Hospital there was marked tenderness in the iliac fossa; she was sick and faint and had shivering, her attack commencing by pain low down in the right abdomen. On opening the latter through the right rectus muscle no trace of large intestine was to be found. There was acute volvulus of the small intestine in the right hypochondriac region. Considerable difficulty was experienced in finding the cæcum; both it and the appendix, which was large, were found healthy but abnormally placed in the left hypochondrium, and the large intestine was obviously very much less in extent and smaller than usual; the other viscera were normal. She made an uninterrupted recovery. In this case, then, there was that fœtal condition of the intestine met with in an early stage of our development. Her symptoms pointed, with the history, to appendicitis rather than to acute intestinal obstruction. Early operation in her case was of the utmost possible benefit.

Another case, again sent up as appendicitis, with sudden severe abdominal pain, marked shivering, rapid pulse, tenderness chiefly in the right iliac fossa and vomiting, proved to be a retro-peritoneal hernia; about 2 feet of collapsed small gut were dragged out apparently from the fossa duodeno-jejunalis. There were old peritoneal adhesions around and a stercolith in the appendix which was removed. The boy made an uninterrupted recovery.

Yet another case: a woman seized with severe abdominal pain, at first general, quickly shifting to the right iliac fossa. There was nausea but no vomiting; there was a history of cellulitis and peritonitis two years previously. The pulse was 120 and the temperature was 101° F. She was drowsy from opium that had been given to her before admission. The abdomen was distended, and there was tenderness which was most marked in the right iliac fossa. This case on operation proved to be a ruptured ovarian cyst: originally springing on the left side, it had ruptured on the right. The cyst was deeply situated and adhered to adjacent bowel. The right Fallopian tube was dilated with fluid and the right ovary was cystic; both were removed, as was also the ovarian cyst. The patient made a good recovery.

These three cases, then, simulating appendicitis, were operated on early and successfully. A policy of waiting might have been fatal in all.

It has not as yet been my lot to cut down on what has been diagnosed as appendicitis and to find nothing. I have, however, found both perforated gastric and perforated duodenal ulcer. Early operation in each case saved the patient's life. So much for pardonable mistakes in diagnosis. If you keep to the rule of operating when you are sure there is something gravely wrong inside the abdomen, I do not think you or your patient will come to much harm. I am ready to allow that certain diagnosis is not always possible, but I do contend that nowadays the experience that we all have had makes the diagnosis of appendicitis not so difficult or so doubtful as it once was.

Let us consider for a moment what happens if a case of appendicitis is left without operation. Recovery, temporary or permanent, may ensue, but the temporary recoveries make a large percentage. Mr. H. S. Pendlebury, some years ago writing to me as to the cases in this hospital between the years 1892 and 1898, says of them: "An interesting fact is that one attack predisposes to subsequent attacks in about 30 per cent. of all cases." With reference to permanent recoveries, some that are thought to be permanent are not so. I remember the case of a friend of mine who had a very bad attack of appendicitis in the days when operation was considered as a last resource. He was not operated upon. Somewhat to the surprise of those who were looking after him, he recovered, and he lived for some 15 years or more, never quite well, haunting places like Carlsbad, Harrogate, and other health resorts, but apparently with no second attack of his trouble. After being obscurely ill with abdominal symptoms for some two or three weeks he died comparatively suddenly. No operation was done, no post-mortem examination was made, but I cannot help thinking that his death was connected with his old enemy—appendicitis. If recovery does not take place, the case, if left, will go on to abscess, to gangrene, or to perforation. Natural recoveries after abscesses bursting into the intestine or through Douglas's pouch are on record, but are rare. One of the latter I have had recently in my own practice, but I take it that no one would argue that if abscess is present operation should not be performed. The same also with gangrene and with perforation. Looking at the cases of what I have called temporary recovery, surely the wise man who has "temporarily" recovered will have his appendix removed. When I say this, I am aware that some eminent surgeons would prefer to see the appendix transplanted to the front of the abdominal wall, allowing it, if necessary, to be used as a means of treatment of the colon, and that a distinguished scientist regards the organ as likely to delay the onset of old age. For myself, I would chance the latter and would agree with the remark of an eminent physician that he would sooner have his diseased appendix in his pocket than stitched to his groin. It is, in my opinion, when colitis only is present that appendicostomy rather than appendicectomy is indicated.

Amongst the arguments against operation is the injury done to the abdominal wall, but let me here remark that if done early no drainage-tube or gauze is required, and that the gridiron incision, by which the abdominal muscles are separated rather than divided, and the incision through the sheath of the right rectus muscle leave the abdominal walls practically uninjured and sound. The person who waits and operates late has to think of the abdominal wall; not so he who operates early. Early operation is easy and, I contend, safe—safe, I mean, in the hands of a surgeon accustomed to abdominal work and prepared to deal with complications or other unexpected conditions that he may meet with. I do not advocate early operation by the inexperienced operator in out of the way country places, where perhaps proper assistance at the operation and in giving the anæsthetic is not at hand. Such cases must be left to wait until adequate arrangements for operating can be made. The abdominal wall then should only be weakened, and then not always,

when gauze packing and tube drainage are required. If there be a subsequent small ventral hernia it is, as a rule, the result of *late* operation. It is not irremediable, and after all but a small price to pay for one's life.

The danger of peritonitis following operation has been advanced as an argument against it, but surely the danger of peritonitis is much greater in all cases if the patient is left. So much for some of the arguments against early operation. The arguments for it are that in itself it is not dangerous; that when done early the abdominal wall is not damaged; that recovery after it is rapid, there is no prolonged convalescence with tubes and gauze packing; that the appendix is dealt with before abscess and other septic complications have time to develop; that such risks as pelvic, post colic, subphrenic, or even secondary liver abscess are avoided; that any peritonitis present is not, as a rule, of that general septic variety seen in the later stages; that the patient has one illness, and gets rid once for all of a constant source of danger—a matter of moment to working men and to those whose lives may have to be lived in outlying parts of the Empire or in any Ultima Thule of our own country; that many grave conditions of the appendix and its vicinity are not always accompanied by the danger-signals of rigor, high fever, rapid pulse, rigid abdomen, vomiting, &c., and so there is developed a false and fatal sense of security if a waiting policy is practised.

I have not time to say much about the details of operation in these bad late cases when abscess or gangrene of the appendix is present, except to impress on you the necessity of packing the neighbourhood with either gauze or sponges, while the contaminated parts are being dealt with, and to open any abscess that may be present with the utmost possible care. No pulling or slicing can be allowed here. Personally, as far as possible I relieve the tension of the abscess gradually by a small opening and mop up the foul matter as it exudes by stick sponges, and although it is now the fashion of most surgeons to discard the use of the marine sponge, I cannot help thinking it has much more capillary attraction and sucks up foul discharges and blood much better than the ordinary swab; in fact, I agree with Sir W. Watson Cheyne and the late Mr. Greig Smith in infinitely preferring a sponge to a swab. In my private cases I never use a sponge twice; at the hospital here only those that have been used for clean cases are sterilised and used again. Adequate tube-drainage and proper packing with gauze are most important when the septic or abscess area is deeply situated. I make no counter-openings, never irrigate or wash out the peritoneal cavity, and regard the gauze as packing only. Secondary abscesses and second operations are usually due either to lack of proper precautionary drainage or the premature removal of the gauze packing. I prefer, in spite of the greater pain and inconvenience, to have this done gradually day by day than to do it at one sitting under an anæsthetic. The latter, *me judice*, is not always a safe proceeding. I have seen two cases doing well up to this time develop after this wholesale removal a fatal peritonitis.

Since 1904 I have removed the appendix in all cases operated on, except five, four of them abscess cases. I never leave it now if I can see or easily feel it; only when I think that a search for it would endanger the patient's life, or when the obvious sloughing and suppuration have apparently already destroyed it, do I not attempt to remove it. Gauze packing gives one a very free hand in this respect—most removals can now be safely accomplished. It is very necessary to remove all stercoliths. I have known a portion of one accidentally left cause an abscess a year after the first operation when the appendix itself was taken away. With reference to secondary abscesses, except for one of the liver (in private) and one subphrenic one, I had had till recently in all my hospital and private cases but two, both near the seat of operation; but in the last month it has been my lot to meet with two more: one in this hospital two weeks after the original operation, when the patient was apparently well, necessitating a second laparotomy, and another (in private) which burst through Douglas's pouch. This latter was due to the large drainage-tube coming out prematurely, an accident that was not discovered for some 12 or more hours. All except the case of liver abscess recovered. One private case, however, had a very enduring fæcal fistula due to some sloughing of the cæcum away from its connexion with the appendix. The fæcal fistula which follows sloughing of the appendix itself is practically nearly always of a temporary nature.

About a month ago I had to deal here with an epidemic of acute cases of appendicitis, operating on no less than ten emergency cases, six in 24 hours. There were, I think, three other cases, making in all 13 in three days. All recovered. Appendicitis often seems to come in epidemics, and I think I have noticed that such epidemics follow some weeks or months after epidemics of influenza of the intestinal variety, but of this I am not sure.

In conclusion, gentlemen, I think I may say that if such acute cases are treated, as I submit they should be, by early operation, when once the condition is clearly diagnosed, the mortality of such early operations, although done during the attacks, should not be, and will not be much, if at all, greater than those done between attacks; in other words, I attribute the present mortality of operations during attacks almost entirely to delay, and against that delay I would wish to protest, and looking at its evil consequences to warn you and others who, in the future, will see this dangerous and insidious disease in its early stages.

An Address

ON

MODERN PROGRESS IN OUR KNOWLEDGE OF THE PATHOLOGY OF GENERAL PARALYSIS.[1]

Delivered before the Hamilton Medical Society, Ontario, on April 14th, 1909,

BY ERNEST JONES, M.D., M.R.C.P. LOND.,

DEMONSTRATOR OF PSYCHIATRY, UNIVERSITY OF TORONTO; PSYCHIATRIST TO THE GENERAL HOSPITAL, AND PATHOLOGIST TO THE HOSPITAL FOR THE INSANE, TORONTO.

THE remarkable progress in our knowledge of the pathology of general paralysis that has been achieved in the past six or eight years is of equal importance from both a theoretical and a practical point of view. On the theoretical side it has thrown much light upon the pathogenesis of a striking malady and has explained much of the actual mechanism of various obscure morbid processes, while on the practical side it has served to clarify our ideas about the boundaries of the disease known as general paralysis, to define sharply the disease, to settle the vexed problems of its etiology, and, above all, to provide us with ready means for making an accurate diagnosis at an early stage of the affection.

Our knowledge has expanded in two main directions, histological and chemical, and although the latter will principally be dealt with here I shall first say a little about the former. Thanks to the labours of Nissl and Alzheimer we now have an anatomical picture of general paralysis as precise and characteristic as any in the range of pathology, and this very fact alone, that we can by an anatomical examination mark off the affection from those resembling it, is of the greatest practical interest. We are to-day in a position completely to disregard the clinical diagnosis of a given case and unhesitatingly to proclaim from only the histological characters of the brain whether it was or was not a case of general paralysis during life.

It would be impossible here even to enumerate all the histological changes found in this affection, let alone to discuss the difference between them and those found in other affections, and I will simply give a rapid review of the changes in the cortex that may be considered most characteristic.

In the *pia* the most striking feature is the intensity of the infiltration and the great variety of cells present. Of these the chief are lymphocytes, plasma cells, and mast cells. The infiltration is thus not confined to one kind of cell, as is the case with tertiary syphilis. The pial changes are essentially infiltrative and not hyperplastic, as is in many other diseases. They cannot be correlated with the cerebral changes as they can in tertiary syphilis, for in general

[1] The address was illustrated by microscope and lantern slides, and was accompanied by a demonstration of the chemical tests referred to.

paralysis the pial and cerebral changes run an independent course. The plasma cell, the recognition of the distribution of which is so important in making a histological diagnosis of general paralysis, has the following features. The nucleus is enclosed in a thick membrane and rarely shows mitosis. The protoplasm is metachromatic, is darker at the periphery than around the nucleus—where it is often yellow—and gets lighter as the cell ages; it often shows vacuolation and degenerative changes.

The *ganglion cells* show all stages of degeneration and sclerosis. The most marked change is the destruction of the orderly arrangement of the different cell layers, which occurs to an extent never met with in any other condition.

The *glia* proliferation is very diffuse and extreme. It differs from that found in other diseases in the rich formation of large thick fibres which are intimately connected with the vessel sheaths. The superficial layer of the cortex is especially affected. Another characteristic feature is the appearance of giant glia cells, which otherwise occur only in cases of luetic endarteritis.

The destruction of the *myelin sheaths* and the secondary degeneration is marked by its widespread extent and intense degree.

The most characteristic changes in general paralysis are, however, in the *blood-vessels*. These show the most extraordinary proliferative activities, and throughout the cortex a number of new vessels are formed by the process of budding. The new formation is not confined to areas of softening, as it is in most diseases. The vessel intima is greatly thickened and vascularisation is often found in it. The adventitia is similarly thickened but the media only slightly. Cell proliferation is thus confined to endothelial and adventitial cells. The change that has the greatest diagnostic import is the character of the infiltration of the lymph sheath of the adventitia, the space of which is very greatly dilated. Here we find an enormous infiltration with both lymphocytes and plasma cells; other cells, such as mast cells, may also be found, but not *Körnchen* cells. *Körnchen* cells, which carry the fat, play an opposite rôle to plasma cells and lymphocytes, for they are found in the vessel sheaths in arterio-sclerosis and only in softened areas in general paralysis, whereas plasma cells are found in both vessel sheaths and softened areas in arterio-sclerosis and only in the vessel sheaths in general paralysis. Outside of, and attached to, the vessel walls in general paralysis are found the curious *Stäbchen* or rod-shaped cells; these occur in no other disease, at least not in the typical elongated form. Side by side with all these proliferative changes in the vessel wall are found some of a retrogressive nature, such as degenerations, of which the hyaline form is the most frequent. These are, however, always less pronounced than the proliferative ones, and never dominate the picture as they do in various forms of arterial disease.

The picture made up by the above details is one that is never found in any other disease, so that, as was before mentioned, we can with absolute certainty say whether a given brain came from a case of general paralysis or not.

We now come to the progress that has been made in the clinical pathology of the disease, and this is almost exclusively concerned with the examination of the cerebro-spinal fluid. The operation of lumbar puncture is so simple that I will not take up your time with any description of it, though I may add a few additional points that experience has shown to be important. The interval between the fourth and fifth lumbar spines is preferable to that between the third and fourth, as being wider. An iridium needle is preferable to a steel one, as being less liable to break. One should never withdraw more than at the most 10 cubic centimetres of fluid at a time. The sitting posture is more convenient in the case of lunatics, as it is then easier to keep to the middle line if they move at a critical moment. The patient should invariably lie down immediately afterwards for the rest of the day. Lumbar puncture should not be performed in a case of tumour of the brain. If these precautions are observed, and strict asepsis ensured, then it may with confidence be stated that there is no risk of any complication or danger arising as the result of the operation.

A large number of characters of the cerebro-spinal fluid may be examined, but only three are of any great practical interest and diagnostic import. They are the pressure of the fluid, the proteid content, and the cytological features. The pressure of the fluid may be measured by allowing it to flow into a bent tube containing saline and observing the height of the rise in the vertical arm of the tube. The value which this observation has in diagnosis is chiefly a negative one—that is to say, the finding of an increased pressure is not a specially weighty piece of evidence in favour of the diagnosis of general paralysis as it may be made in several other affections, notably in tumour of the brain; on the other hand, as an increased pressure is so remarkably constant in general paralysis one would be very chary of making a diagnosis of the disease if the pressure were not raised. The rise in pressure may be very great; I have punctured several cases of general paralysis in which it was over 800 millimetres of mercury.

The proteid[2] of the normal cerebro-spinal fluid is exceedingly slight in amount. It is chiefly, and perhaps altogether, of the nature of globulin. In general paralysis the amount of proteid is increased often four or five-fold. Albumin is constantly present, but probably the main bulk of the proteid is globulin. There are a considerable number of different kinds of globulin, but the main interest in general paralysis centres round one variety which is known as euglobulin. This is so because not only is it present in the cerebro-spinal fluid of general paralysis in considerable quantity, but especially because it is now known to be the carrier of the interesting antibody that is operative in the Wassermann reaction of which we shall speak in a moment. Euglobulin differs from serum globulin in several particulars, the chief one being that it is precipitated in a 33 per cent. solution of ammonium sulphate, whereas a strength of 50 per cent. is necessary to precipitate serum globulin.

Of the chemical tests for proteid used in this connexion some give a positive reaction with both the normal fluid and that of general paralysis, though in a much more pronounced way in the latter case, while others give no positive reaction in the normal. Of the first class, the two of most convenient application are those generally used in testing for the presence of proteid in urine—namely, the heat and the nitric acid test. In the former instance, the fluid is first acidified, and it is then better to boil the whole length of fluid instead of only the upper part as is done in the case of urine. The Heller nitric acid test is applied in the usual way by gently running some fluid on to the upper surface of cold concentrated nitric acid. By these tests only a trace of proteid is found in the normal, while with general paralysis the precipitate or ring formed is of a considerable density.

Of the second class of tests I will here mention only two. The first was described a few months ago by Noguchi of New York and is carried out by adding half a cubic centimetre of a 10 per cent. solution of butyric acid in physiological saline to a tenth of a cubic centimetre of cerebro-spinal fluid and heating the mixture to boiling point. A tenth of a cubic centimetre of 4 per cent. sodium hydrate is then added to the mixture which is again heated. When the reaction is positive there appears within half an hour not only a white cloudiness, which is of no significance, but a peculiar flocculent precipitate. The second of these tests was described by Dr. G. W. Ross and myself in a paper read last January before the Ontario Academy of Medicine,[3] and since that time we have had considerable opportunity of verifying the conclusions there advanced. It consists in gently pipetting some of the fluid on to a saturated solution of pure neutral ammonium sulphate. A positive reaction is manifested by the appearance of a characteristic, thin, sharp white ring at the junction of the two fluids; this within a few minutes assumes a fine mesh aspect. These two tests are constantly positive in cases of general paralysis; they are sometimes so in cases of tertiary lues of the nervous system, but they are always negative in all other forms of mental disease and in the normal.

The cell content of the fluid should be studied in two ways. First, an absolute count should be made, and this should be stated in terms of cells per cubic millimetre and not in terms of cells per field as is often done. For this purpose it is unnecessary to centrifugalise the fluid. The Fuchs-Rosenthal special counting chamber may be utilised, or the ordinary blood-counting chamber may be used by a still simpler method

[2] A full account of this subject is given in "The Proteid Content of the Cerebro-spinal Fluid in General Paralysis," Review of Neurology and Psychiatry, June, 1909.

[3] On the Use of Certain New Chemical Tests in the Diagnosis of General Paralysis and Tabes, Brit. Med. Jour., May 8th, 1909, p. 1111.

I described some two years ago.[4] Secondly, a differential study of the cells should be undertaken. In meningitis this can be done with sufficient accuracy during the absolute count by simply noting the relative frequency of mononuclear and polymorphonuclear cells. In general paralysis, however, a special procedure is necessary so as to permit of a more precise study of the different kinds of cells present. By far the best method for this purpose is the one introduced by Alzheimer. Two volumes of 98 per cent. alcohol are added to one of the cerebro-spinal fluid; the deposit obtained after centrifugalisation is hardened in alcohol and ether, and sections cut and stained along recognised lines.

In the normal cerebro-spinal fluid cells are rare. One never finds more than five to the cubic millimetre, and they are practically always to be classified as small lymphocytes. In general paralysis the cell count is almost always increased. The diagnostic significance of the increase varies with its extent. A count of 40 to 50 cells is not infrequently met with in tertiary syphilis, though in no other chronic disease except general paralysis—including, of course, tabes. A cell count of over a hundred, and I have met with counts as high as a thousand in this disease, occurs in no affections except general paralysis and acute meningitis.

The most striking feature of the cytological picture in the cerebro-spinal fluid of general paralysis is, next to the number of cells present, the great variety of them. It is rare in any other affection to find more than two or three different types of cells, but in general paralysis the number of different types is so great as to be indeterminate. The cell most frequently met with is, as in the normal, the small lymphocyte; usually two-thirds of the cells present are of this nature. Other important kinds found are polymorphonuclear cells, plasma cells, endothelial cells, phagocytes and mast cells, usually in this order. The cell picture of the cerebro-spinal fluid in general paralysis is, then, a highly characteristic one.

We have last of all briefly to mention the sero-diagnosis of general paralysis. I have time here only to outline this in the most sketchy way, but those who are interested may be referred to a review of the subject I have just published in the April number of the *American Journal of Insanity*.[5] Of the different methods that have been suggested only two will here be mentioned—the Wassermann-Plaut and the Porges-Meier. The essence of the former method consists in testing whether the cerebro-spinal fluid can combine with syphilitic material to bind the complement present in normal serum. Whether the complement is bound or not is ascertained by noting whether the mixture is able to dissolve the red blood cells of any animal in the presence of a hæmolysin that is specific for these cells. If the mixture can do this, then the complement, which is necessary to act with the hæmolysin in bringing about the solution of the cells, must have been still free, so that no special substance capable of fixing it could have been present in the cerebro-spinal fluid that was tested. On the other hand, if the red blood cells are not dissolved, then the complement must have been previously fixed by some substance in the cerebro-spinal fluid and the reaction is called a positive one.

The practical value of the test is very high. The reaction is positive with the cerebro-spinal fluid in general paralysis in 95 per cent. of the cases, and with the blood serum in 100 per cent. One would therefore refuse to make the diagnosis of general paralysis if the blood serum gave a negative Wassermann reaction. A positive reaction with the blood is, of course, not very strong positive evidence of the presence of general paralysis, for it occurs in three-quarters of simple syphilitic cases. On the other hand, a positive reaction with the cerebro-spinal fluid is strongly indicative of the presence of general paralysis, for it only rarely occurs with simple syphilis, even if this has caused serious disease of the nervous system.

The substance in the cerebro-spinal fluid that is responsible for the reaction is now known not to be a specific antibody, as Wassermann supposed, for it can fix complement in the presence not only of syphilitic material but also of many other substances. These are all, like lecithin, of a colloid nature; and it is probable that they are present to a large amount in syphilitic material. Still the fact remains that the supposed antibody is specific in the practical sense of being present only in individuals who have had syphilis, so that it is in some way produced, whether directly or indirectly, by the syphilitic infection. As was mentioned above, it is known that this substance is carried in the euglobulin of the blood serum or cerebro-spinal fluid, and the further interesting discovery has been made that it is present in small quantities in normal individuals, though for special reasons it exerts no complement-binding capacity in them.

The fixation of complement that is the essential feature of the Wassermann test is performed by a reaction between this globulin antibody and colloid present in syphilitic material. The reaction has been shown to be of the nature of a precipitation, and Porges has suggested that one should be able to determine the presence of the globulin antibody by noting whether the cerebro-spinal fluid containing it causes a visible precipitate when added to a colloid emulsion. Lecithin is the colloid most often employed for this purpose, though sodium glycocholate gives rather better results. This test gives positive results in the majority of cases of general paralysis, but unfortunately it often does so also in other diseases, so that, though the theoretical interest of it is considerable, its practical value in diagnosis is but slight.

To sum up the advances in knowledge that have just been referred to, and the applications, both theoretical and practical, that may be made of them, the most striking corollary we see is the proof that the term "general paralysis," instead of being rather indefinitely applied to a vague group of allied states, as was formerly done, must now be restricted to a perfectly definite and sharply marked-off disease having both anatomical and clinical differential features of the most characteristic kind. Reflexion on the specific and highly differentiated nature of these changes at once makes it evident that in studying the etiology and pathogenesis of them we should expect to find a similarly specific cause. In the same way that discovery of the histological unity of tubercles made it practically certain that there was a specific cause at work, which was then discovered in the form of Koch's bacillus, so in general paralysis does the discovery that the disease is a specific unity that can be sharply differentiated from other diseases make it equally certain that there must be here also a specific cause at work. What that cause was had for some time been surmised as a result of the huge mass of converging evidence, drawn from the most diverse sources and following the most diverse lines of argument, that unequivocably pointed in only one direction. This surmise has within the past few years been most strikingly and gratifyingly confirmed by the study of the cerebro-spinal fluid, which showed, on the one hand, that an increase in proteid and a pronounced lymphocytosis occurred in no diseases except syphilis and the affections of tabes and general paralysis that are presumably a sequel of this, and, on the other hand, that highly peculiar substances, the so-called antibodies, are present in every case of general paralysis and in no other affection except syphilis.

The exceedingly high value that the new observations have in enabling us to make an early and certain diagnosis of the disease I have already alluded to, and in this paper, which is of a necessarily discursive character, it is impossible further to deal with the question or with that of the increased understanding of the pathological mechanisms at work that we have similarly attained. I will conclude with a remark of a more general nature—namely, that I am greatly impressed with the danger there is in tending to regard general paralysis as a paradigma of mental disease. This tendency is an extremely natural one, because it is so harmoniously in accord with the over-materialistic training we have all received in medicine in general and in psychiatry in particular. The pathological discoveries I have referred to seem so conclusively to confirm the common medical belief that mental disease is always due to some primary physical change in the brain produced by some poison circulating in the blood that those of us who, like myself, are convinced of the fundamental falsity of this belief are tempted at times to regret the making of these discoveries, magnificent as they are. At all events I feel sure that they will set back the clock in the development of scientific psychiatry more thoroughly than any other event that could have happened. This opinion is founded on the view that general paralysis, instead of being the type of the way in

[4] A Simplified Technique for Accurate Cell Enumeration in Lumbar Puncture, Review of Neurology and Psychiatry, July, 1907, p. 539.
[5] A Review of our Present Knowledge concerning the Sero-diagnosis of General Paralysis, American Journal of Insanity, vol. lxv., p. 653.

which mental disorder is produced, represents an exceptional way. I am not hopeful that histological and chemical methods, pursued along the route that has been opened up in such an apparently obvious way, will throw light upon many more psychiatric problems, with the exception perhaps of certain forms of acute toxic psychosis. Greatly as I admire the precise and valuable results that have been reached in the case of general paralysis, I consider that the psychological work done by, for instance, the Freud-Jung school is not only more valuable at the present moment, but is infinitely more promising of fruitful results for the future.

THE INTRAMUSCULAR TREATMENT OF SYPHILIS, WITH SPECIAL REFERENCE TO THE INSOLUBLE PREPARATIONS OF MERCURY: A CRITICAL REVIEW.*

BY GEORGE PERNET, M.D. PARIS, M.R.C.S. ENG., L.R.C.P. LOND.

THE protean manifestations, direct and indirect, of this infection meet the medical man at every turn, so much so that it may be said to dominate human pathology. Some writers have gone so far as to estimate that a third of the morbid conditions met with are accounted for by syphilis.[1] Notwithstanding the great advance made in recent years in the direction of prevention, syphilis is spreading, thanks to the increased intercourse of nations with one another and rapid means of communication. Wars, too, are accountable for an increase in the incidence of the disease, so much so that in South Africa, for instance, syphilis has become a danger to the community.[2] The moving about of large bodies of troops necessarily leads to the spread of venereal complaints, and I need not recall the great outbreak of syphilis at the time of the siege of Naples at the end of the fifteenth century. I have no doubt that the Cuban and Philippine campaigns have led to the spread of syphilis in the States. Again, the doubtful blessings of our civilisation can be bought too dearly by native races, such as those of Uganda, among whom lues venerea has become rife and threatens to exterminate,[3] a recent example among many of syphilis conveyed to hitherto non-contaminated communities, as in the case of Pacific islands, for instance, infected by the early navigators. Where various preventive measures have been tried, some of them most drastic, they have defeated the very ends they were intended to attain by encouraging a security that was illusory.

I have mentioned these points, not by way of an apology for dealing with a subject of perennial interest, and likely for a long time to come to partake of that character, but to show that as far as syphilis is concerned we have a Sisyphean task before us. If we turn now from generalities as to distribution and spread to the particular, the individual, we find the domain of the disease being daily extended and to include every tissue in the body. Since the days of John Hunter, who by his great authority put the clock back as to our knowledge of visceral syphilis,[4] although Morgagni had demonstrated the fact of its existence, one structure after another has succumbed to investigation. I would here insist on the enormous importance of recognising that the syphilitic infection is one that may affect any organ of the human body, and that the possibilities of future mischief are great, however benign the early visible manifestations of disease may appear to be.

It is germane to my subject to detain you yet a little longer on some cardinal points, which must, in my opinion, ever be borne in mind. We do not treat an abstract thing called syphilis, but a human organism suffering from the invasion of another organism, the *Spirochæta pallida* or *Treponema pallidum*. That this organism must be accepted as the *causa causans* is, I think, settled. Every individual case must be treated on its merits. I have dealt with this at large in another place,[5] but to prevent any misunderstanding I desire to say, *in limine*, that intramuscular injections, whether of soluble or insoluble preparations, are but one means, and a very valuable one, of treating the infection. Personally I am eclectic, and much depends on circumstances of various kinds as to the method to be employed. Intramuscular injections, especially the insoluble ones, are not to be used in a routine manner for any and every case of syphilis. It is this routine, and, I may add, careless, manner of applying an otherwise admirable method that has been responsible for such undeserved disrepute. This is a point I shall have to go into at greater length later on. Another point, which I think should be thoroughly grasped once for all, is that treatment should be started immediately the primary chancre is recognised as such, without waiting for so-called secondary or general manifestations. Indeed, all our powers should be directed towards the prevention of such symptoms by early energetic treatment guided by due and proper supervision of the case. Again, treatment should be pursued with perseverance and for a long period, for it has been amply demonstrated that inadequate treatment in the early years of the infection is fraught with future danger. It is now almost generally accepted as a fact, and further investigation serves but to confirm, that tabes[6] and general paralysis are syphilitic in origin.

Various changes in the blood-vessels[7] leading to early and serious complications, unrecognised gummata of the heart terminating with sudden death, and so on, must be mentioned here. One of the latest conquests of syphilis is the involvement of the "band of His," giving rise to what has been called "heart block" or the Stokes-Adams syndrome—viz., incoördination in the rhythmic movements of the auricles and ventricles. Rénon[14] records an instance in a syphilitic patient, who was distinctly relieved by pushing intramuscular injections of enesol.[8] That cancer may develop as a result of syphilis is undoubted, especially since the work of Fournier, Butlin, and others concerning cancer of the tongue. Gaucher goes so far as to consider this condition as being always syphilitic in origin.[9] Recent investigation again points very strongly to malignant disease of the uterus as a possible consequence of the syphilitic infection.[10]

Sufficient has been said in these brief introductory remarks to demonstrate the seriousness of the question of treatment, and is my excuse for calling your special attention to the intramuscular method. I am well aware that as far as the soluble preparations are concerned their employment is well known to you here in the United States, and it is not my intention, therefore, to detain you long as regards them. On the other hand, the insoluble preparations have not, if I may use the term, "caught on" either in my own country or in the United States—that is, as far as my knowledge goes concerning the latter, whereas in France these preparations are in current use. In England it is true, thanks to the efforts of Colonel Lambkin, mercurial cream injections are used in the British army, notwithstanding the adverse criticism of many well-known British dermatologists given in evidence before the Commission of Inquiry,[11] although apparently they had had no actual experience of the method. Judging from the discussion that took place on the subject at the Sheffield meeting of the British Medical Association (Dermatological Section) last year this attitude is maintained, for Professor Neisser of Breslau and myself were the only two speakers who were resolutely in favour of the use of the insoluble preparations.

Now this negative attitude as regards a valuable method is explained by the fact that several fatal cases have been recorded as a result of the use, or more correctly the misuse, of "grey oil." It is therefore incumbent on me to examine some of these cases critically before going any further. In 1906 Claude and Dobrovici[12] published five fatal cases following injections of grey oil. I will take them seriatim.

CASE 1.—A woman of 50 years. Injections of grey oil were given, but there are no details of this case. The patient succumbed to gangrene of the pharynx.

CASE 2.—A labourer of 25 years. Syphilis recent. He had four injections of grey oil during the month he was at the Hôpital Ricord. Was admitted to the Hôpital Saint-Louis with stomatitis. No albumin in urine. At the necropsy no evidence of pulmonary tuberculosis. Necrosis of left lower maxillary.

In this instance no details as to doses injected are given. Howbeit, the fatal issue certainly appears to have been due to the injections.

CASE 3.—A café waiter, of 39 years. Admitted on Sept. 17th, 1904, to Saint-Louis for bad mercurial stomatitis. Old syphilis. Was treated for mental symptoms with loss of consciousness and epileptiform convulsions at another Paris hospital, receiving two series of six injections each with an interval of two months between them—viz.,

* A paper read before the American Medical Association at its Sixtieth Meeting, Atlantic City, U.S.A., 1909.

12 injections in all. On Sept. 29th the patient was somewhat better as a result of treatment. A broken-down gumma was discovered in the left anterior pillar of fauces. He was ordered a daily injection of 0·01 centigramme of benzoate of mercury (soluble preparation) with 2 grammes of iodide of potassium. By Oct. 5th, although the gummatous condition improved, the stomatitis recurred. Injection stopped. Death occurred on Oct. 18th. At necropsy tuberculosis of lungs was found. Nothing said as to urine, but kidneys were large and soft with thickening of the cortex.

In this case we have a tuberculous patient, with kidneys no doubt much below par leading to renal inadequacy. The occupation makes alcohol a possible unfavourable factor. Another point is the fact that he was ordered iodide of potassium, which increased elimination of the insoluble mercury preparation stored up in the body, for the last injection of the second series of six had been administered ten days before admission to Saint-Louis. In mercurial stomatitis iodide of potassium is in my opinion contra-indicated, but in this particular case the gumma of the anterior pillar must be borne in mind. The exhibition of saline aperients is usually the best way of dealing with mercurial stomatitis, in conjunction with local treatment. To sum up, this case is one in which intramuscular injections of an *insoluble* preparation were distinctly contra-indicated from the first, and shows the necessity of dealing with cases on their individual merits after a thorough overhauling. The upper third of the right lung showed excavations, and would of itself have been sufficient to contra-indicate absolutely the employment of grey oil injections.[13]

CASE 4.—A woman of 50 years. In January, 1906, she received five weekly injections of 6 to 7 centigrammes of grey oil for an ophthalmoplegia externa, which it should be added cleared up as a result of the treatment. Treatment was stopped immediately a stomatitic point was discovered about the last inferior right molar. Notwithstanding all kinds of treatment the stomatitis went on progressively. The patient was admitted to the wards of Saint-Louis but she died on June 12th. There had been some albuminuria. The apices of both lungs revealed encysted tubercles, one of which was caseating. Broncho-pneumonia. The kidneys were sclerotic, with adherent capsules and atrophied cortices.

In this case a more thorough examination (urine, lungs) would have prevented the use of intramuscular insoluble injections, especially in the case of an elderly female, for women do not stand the insoluble preparations as well as men, nor in such large doses.

CASE 5.—A woman of 25 years; syphilitic; was treated in a Paris hospital in May, 1906, with grey oil. After an examination of the urine, which did not contain albumin, 10 centigrammes of metallic mercury were injected. A week later there was an improvement in her condition and 5 centigrammes were injected. Immediately after this the patient felt out of sorts, and on examining her mouth a commencing right inferior molar stomatitis was discovered. She was admitted under Dr. de Beurmann. No pulmonary symptoms, no albumin, no diarrhœa. She was put on a milk diet. At the end of a fortnight she left the hospital, improved, but not cured. Ten days later she was readmitted much worse, although she had had no mercury, with obstinate diarrhœa and vomiting. Marked desquamation in large flakes of the integument, with œdema of the face, arms, and legs. Urine became small in amount; albumin found.

Here, again, the intramuscular injections were evidently responsible, but it should be pointed out that 10 centigrammes was too large a dose to start with in a woman, and, moreover, if the mouth had been examined for signs of stomatitis, as it should have been in a routine way, the second injection of 5 centigrammes would not have been given.

It must be noted that these five cases were hospital patients and it is only fair, I think, to assume that their nutrition was below the average. Another point of paramount importance is the condition of the teeth and mouth. In Europe the teeth of hospital patients are frequently in a very bad state, in many cases the use of a tooth-brush being unknown. In the five cases I have rapidly summarised the teeth are not mentioned. Possibly, too, although it is not stated, the stomatitis may have been aggravated in some of the cases, besides Case 3, by the exhibition of iodide of potassium.

In addition to these five observations I would call your attention to some other bad cases which led to discussion at the Société Médicale des Hôpitaux de Paris[14] in 1906. A woman, aged 38 years, admitted on March 22nd, 1906, under Ménétrier and Bouchaud, developed a severe stomatitis of five weeks' duration five months after the injection of calomel. The teeth were in a very bad condition. She was discharged improved on April 1st. She returned on April 12th with a fresh outbreak of the stomatitis, when a nodule in the right buttock was discovered. It appeared she had had an injection on the left buttock in March, 1905, followed eight days later by an abscess which was opened, leaving a scar. A second injection was made into the right buttock in October, 1905, leaving a nodule or infiltration, which was excised. The urine did not reveal any albumin, but mercury was found in it. In this case the injection had been made in the subcutaneous fat and not into the actual muscle as it should have been. This is an important point, and it is necessary in fat patients that a needle of sufficient length should be used to ensure reaching the muscle.

In another fatal case, recorded by Letulle,[15] a woman, aged 26 years, had had 20 injections of grey oil extending over four months, the patient being pregnant at the time. All went well at the confinement and a full-term child was delivered. On March 24th, the day before her admission to hospital, another injection of grey oil was made, making 21 injections in all. A few hours later acute stomatitis occurred. The doses of the grey oil injected were unknown, as usual. Her teeth were in a deplorable condition; they were never attended to in any way during her confinement. Several decayed teeth were removed, with some improvement. But the stomatitis returned and the patient died. At the necropsy slight nephritis of some standing was found. Here we have to deal with an unjustifiable use of an insoluble preparation—viz., 20 injections in four months in a pregnant woman. It is well known that mercurial stomatitis is very likely to occur in pregnancy and the puerperium when the woman is in a toxic condition already.[16] Pregnancy contra-indicated the insoluble injections. Moreover, women are in any case more prone to develop stomatitis than are men.[17] The doses injected were not known, a fact which crops up frequently in the records of fatal cases. In addition, the patient's teeth were evidently in a condition that should have been an additional contra-indication to the employment of insoluble injections.

In the discussion Queyrat, who had had a large experience at Cochin-Ricord, said he had never seen any serious symptoms following the use of intramuscular injections of grey oil, even in larger doses than was usual, although 6000 and more a year were carried out in his department. He pointed out that in some individuals nodules occurred, and in such it was wise not to persevere with insoluble preparations if nodules followed the injections on two consecutive occasions. In this I agree, for it must be remembered that in cases of that kind a large amount of mercury may subsequently be suddenly thrown into the system. In some cases deposits of mercury have been revealed by X rays[18] and excised, thus cutting short the stomatitic symptoms.

Duhot, who for some years now has employed the insoluble preparation of mercury on a large scale and followed up his cases in a very thorough manner, has published his results in a recent paper.[19] As regards "grey oil," during the three years 1906–7–8 he has dealt with 781 cases of syphilis (primary, early and late congenital) in hospital and private practice (some 7800 intramuscular injections), and including cases previous to 1906 has had an experience of over 20,000 injections in all. Taking the year 1908 (289 cases in hospital and in private 253—141 hospital and 121 private of which were treated by means of injections of grey oil, about 4500 injections) he never met with any serious complication as a result of the intramuscular treatment ("*huile grise*"). The doses varied from 7 to 14 centigrammes. In neither class of practice was there any case of stomatitis. In three hospital cases a superficial abscess was observed due to a fissure in the needle. Here I may observe that needles (platino-iridium) require supervision as to cracks, thus leading to a deposit of the grey oil in the superficial parts. 15 nodules (10 hospital, 5 private) occurred. By nodule is meant a nodular infiltration or small lump in the muscle. Slight gingivitis, 6 (4 hospital and 2 private). Thoracic pain or constriction, 9 (6 hospital and 3 private). Mercurial grippe, "*grippe mercurielle*" "*fièvre mercurielle*" of Emery, that is general malaise, slight febrile manifestations, pains about the limbs and joints, loss of appetite, headache, &c.; in a word, symptoms resembling influenza or grippe.[20] Albuminuria: 8 hospital, and fleeting in 3 private cases. Intolerance: 3 hospital and 1 private, all these cases were observed in women; this emphasises what I have already said as to women not standing the injections as well as men.

Jullien[21] was the first to contend that the early (secondary) manifestations of syphilis could be systematically prevented by energetic treatment—viz., by intramuscular injections of calomel. Duhot held the same opinion for a time but subsequently he gave up calomel for grey oil, and he now puts

forward 200 cases he has had under observation, and claims that as a result of energetic "abortive" treatment, as he calls it, by intramuscular injections of grey oil in large doses started immediately on the early diagnosis of primary chancre, there has been no sign of tertiary manifestations.[23] Of course, as we all know, the tertiary symptoms may be long delayed, and this is a fair objection that might be made as to the point he has put forward. As to doubt about the diagnosis of the primary syphilis, he has laid this at rest by a systematic examination for the Treponema pallidum by demonstrating its presence in smears and frequently in the excised chancre, this being ascertained in a routine way before starting the treatment. When the treatment was commenced after the appearance of the secondary or early rash, tertiary manifestations have occurred but they have been rare, thus emphasising the necessity of early interference. I have already insisted on the importance of such a procedure, but it will bear repeating again and again, so great is the influence of authority, especially as it is still maintained in some quarters that one should wait for the secondary rash before commencing treatment, although that attitude is slowly breaking down and giving way to a more rational view of the matter. Moreover, Duhot further insists that in his cases (134 at the time he wrote on the point) cerebro-spinal lymphocytosis as ascertained by lumbar puncture did not occur. In addition to this, Duhot, with the assistance of De Grave, is applying the Wassermann test to cases treated by the abortive method. They have found that the negative Wassermann test is in direct ratio to energetic early intensive treatment.

Scherber, in the clinic of Finger at Vienna, has also obtained encouraging results with the "abortive" treatment by excision of the primary sore and intramuscular injections of either mercury salicylate or "*huile grise*," but mainly the former.[23]

Neisser has also employed large doses of grey oil, following on Duhot's initiative, that is, 14 centigrammes. In a recent communication Zieler (now of Würzburg), working in Neisser's Breslau clinic, places on record that injections of large doses of grey oil are well borne, and states that in 50 cases treated in that way, totalling 271 injections of 14 centigrammes, no untoward complication was observed, and that even in the case of women such large doses could be frequently employed, but that in them marked infiltrations (nodules) were observed in several instances.[24] Zieler insists, however, on the importance of using the new preparations of grey oil in this respect, and points out, as I have already done, that women do not bear the injections as well as men, and that it is incumbent in their case to use smaller doses—viz., 5 to 7 centigrammes.

Another recent paper on the subject by Carle must also be alluded to. In 282 cases (1902 to 1907) Carle employed the abortive treatment early and "intense," with very satisfactory results as to secondary and tertiary symptoms,[25] and on the whole he confirms the results of Jullien, Duhot, Leredde, Tommasoli, and others; but Carle does not consider that abortive, intense, early treatment prevents in all cases subsequent morbid manifestations. He also expresses the opinion that in rare instances the iodides and arsenic are valuable, especially in the malignant forms.

It would be impossible in the present paper to go into all the literature of this big subject, but I think I have said enough to show that when the intramuscular injections of grey oil are carried out with care and with the precautions that I shall enumerate further on, serious complications do not arise. In the foregoing it has been my endeavour to deal with the matter fairly and squarely, for we must aim as medical men at doing all we can for the benefit of our patients. I have placed before you the dangerous possibilities that lurk in the treatment unless carefully applied, and I should certainly not advise any and everybody to attempt it unless the method has been mastered. I repeat once more that it is *not* a routine treatment which can be carried out in a haphazard manner.

As far as my own work goes, I may say that I have only employed the intramuscular injections of insoluble preparations in my private practice. I have never seen any complication arise. My results have been very satisfactory and I consider the method a most valuable one, especially when any serious syphilitic complication threatens. My experience of the *early abortive intense* treatment has been from the nature of private practice very limited, and I have not felt justified in applying it to its full extent. But where full control of the patient could be obtained I have found no ill-effects ensue after 10 or 12 consecutive weekly injections of doses varying from 7 to 10 centigrammes. Indeed, the results have been in a few instances of this kind very encouraging. In one case the primary sore was followed by high temperature in a patient who had previously suffered from malaria, and who, as is usual in such an event, considered the febrile condition of that nature. I considered the temperature was syphilitic, and on that assumption I injected grey oil, as I have stated, with the best of results. Since then several series of injections of grey oil have been given, and the patient has done extremely well as far as syphilitic symptoms are concerned. The injections have been well borne, although the patient had been liable to pseudo-dysenteric attacks. Salicylate of bismuth in gr. v. cachets three times a day is efficient as a rule in dealing with any tendency to attacks of diarrhœa.

Before leaving grey oil it is necessary to state that a properly made sterilised standard preparation should be used. As far as I am concerned, I have always employed French preparations and I have found them reliable in their action. Grey oil is now in the French Official Pharmacopœia. The formula is: purified mercury, 40 grammes; anhydrous lanolin, pure and sterilised, 26 grammes; medicinal oil of vaseline sterilised, 60 cubic centimetres. This is put up in small glass-stoppered bottles of 1 cubic centimetre of the preparation containing practically 40 centigrammes of mercury. I now use Lafay's standard preparation, but there are other good brands such as Vigier's, Roger-Cavailles's, &c. I am obliged to mention this, as it is of the greatest importance, as you will see, to use a uniform grey oil, for some of the accidents which have been placed on record have been the result of using much too large doses in error, and in one case of employing a preparation put up by a pharmacist who made a mistake in reading the prescription (Smirnoff's case). By employing a standard preparation of one strength and a syringe one is accustomed to, there is no chance of confusion and of errors, which may arise when different strengths and variously graduated syringes are used.

Accidents with grey oil, and also with calomel, have occurred—that is undoubted, and I insist on the fact. But accidents have also followed the use of soluble preparations and fatal cases have resulted from inunctions. With regard to the latter I will mention two cases. In the case of a very fat woman, G. Mayer[26] of Aachen records a fatal termination following the use of inunctions, which led to a severe generalised eczema, as he calls it, but which was probably what we should more correctly designate mercurial dermatitis. Stein[27] has quite recently given the details of a fatal case occurring in a young woman of 26 years, with recent syphilis, who developed severe dermatitis after 24 rubbings of 3 grammes each of unguentum hydrargyri, from Nov. 18th to Dec. 17th, accompanied by fever and very severe complications. The patient died seven weeks after the commencement of the treatment. At the necropsy, numerous punctiform hæmorrhages were found in the muscles of the trunk, in the endocardium, the liver, the kidneys, and the intestinal mucous membranes. It will be noted that once more the patient was a woman, a point to be borne in mind. There is no doubt the rubbing was over-done. Moreover, when the erythema started, iodide of potassium was administered, a proceeding which I consider a mistaken one—a fact I have already insisted on. These are not the only two cases that might be brought forward against the inunction treatment. But that would surely be no reason for damning a method that is valuable. Philosophically considered, everything is relative, just as much in medicine as in any other sphere of human activity and endeavour.

In my own experience I have found that patients suffering from the effects of fairly recent malarial and tropical infections, such as blackwater fever, bear inunctions badly. In one instance, two or three inunctions led to severe stomatitis, although the mouth had been put in order, and the patient was confined to his bed and kept under strict observation. *A fortiori* in such cases would intramuscular injections of insoluble preparations be contra-indicated, and soluble preparations would have to be closely watched. In the particular case I have referred to I found arsenic very valuable. That was before atoxyl, but they are the sort of patients in whom a properly prepared atoxyl should prove useful.

In connexion with my subject, I must allude to an

instructive and unusual case of indirect mercurial intoxication terminating fatally and occurring in a tuberculous male of 21 years related by Volk. The patient was admitted to a venereal ward in Vienna on account of an ulceration which had been thought to be luetic but was really tuberculous. The cubic capacity of the ward was about 750 cubic metres and contained 24 patients. Five or six of these were being treated by means of Welander's mercury bags, whilst others at the time were not having inunctions or other external mercurial treatment. Nine days later the tuberculous patient developed mercurial stomatitis, and notwithstanding the fact that he was moved to another ward he rapidly sank with symptoms of lobular pneumonia and œdema of the lungs, the stomatitis having meanwhile become worse and worse.[28] Here we have a rare example of indirect mercurial intoxication, but it must be observed occurring in a tuberculous non-syphilitic patient.

This case reminds me of an instance of bad stomatitis in a male with old syphilis following inunctions. The stomatitis made no headway towards recovery when the inunctions were stopped and the condition treated by appropriate remedies, but I discovered that the patient was still wearing the singlet he had worn during the inunction period and which was still soiled with unguentum hydrargyri. He was inhaling mercurial vapours, especially at night. When this was removed his stomatitis soon improved. If I have referred to toxic complications arising from other methods, it has not been with the intention of condemning them, but in order to show that no method was perfect, and that intramuscular injections of insoluble preparations especially were not to be thrown on one side because accidents, in most if not all instances avoidable, had followed their use.

I take this opportunity of calling your attention to another point of importance—viz., that complications laid at the door of mercurial treatment are not infrequently really due to the syphilitic infection itself. This is a subject I cannot deal with in this place at any length, but symptoms of that kind, such as fever, albuminuria, and so forth, will readily occur to you. Moreover, this side of the question has already been thoroughly dealt with by Emery and Lacapere [29] and others, so I will pass on to the consideration of matters more nearly related to my present paper.

Having touched on grey oil, I must now say a few words on the subject of calomel, first employed subcutaneously and then intramuscularly by Scarenzio in 1864.[30] Jullien, who had experimented with a variety of mercurial preparations, soluble and insoluble, came to the conclusion that calomel in intramuscular injections was a sovereign remedy and one which, when used carefully, could be employed with safety. He instances, for example, two cases of early optic neuritis which cleared up under its use.[31] In serious manifestations of syphilis, of the brain, eye, and so forth, calomel is a sheet anchor. Leredde, Babinski, and other observers have shown its value in syphilitic affections of the nerves. Darier, in speaking of threatening specific cerebral arteritis, is very categoric on the point, and rightly so. He advises the immediate injection of 10 centigrammes of calomel in the case of men, and 5 to 7 centigrammes in the case of women, continuing them every fifth or eighth day, but when the mouth is in bad condition a daily injection of a soluble preparation (biniodide, benzoate, cyanide) is to be preferred.[32]

In the initial manifestations of early syphilitic hemiplegia the use of calomel may make all the difference in the future of a young man. I have myself seen a promising career wrecked by not keeping this point well in view. The patient was a young adult from abroad, whom I saw for the first time a year after the hemiplegia had become confirmed. In the quite early stages of his cerebral syphilis he had been treated in London by mercurial pills, an utterly inadequate treatment. When he came under my observation for the first time, a year later as I say, there was nothing to be done, the arm having become ankylosed at the shoulder-joint, with contractures. This case made a great impression on me. Now had this young man been injected with calomel from the very onset there is every probability the hemiplegia would have been averted. And it is all very well to say that the insoluble preparations may lead to complications in the way of mercurial intoxication, but in desperate junctures the consequences of the syphilitic infection, as in this case, may be more damaging still.

One of the objections made to calomel is that the injections are very painful. They may be, although patients vary a great deal in this respect. I have not found Zambeletti's calomel preparation lead to any pain, or at most it has been slight or very bearable. Recent experimentations by Lévy-Bing, Eudlitz, and Lafay tend to show that concentrated calomel preparations are better borne than those usually employed. They have settled on a preparation containing 40 centigrammes to 1 cubic centimetre, instead of using those in the market containing only 5 or 10 centigrammes to 1 cubic centimetre.[33] This dosage has the further advantage of assimilating it to the "*huile grise*" of the French codex, thus leading to simplification in practice.

There is a syphilitic symptom which is of great importance and not infrequently overlooked, I mean the characteristic headache coming on towards the evening (vesperal), or occurring at night (nocturnal), and which calls for energetic and immediate treatment by means of intramuscular injections of insoluble or soluble preparations, as the case may be. In dealing with the insoluble preparations, and especially "grey oil," I have referred mainly to French medical literature, for the simple reason that it is in France that they have been mainly employed. In England and the United States this method of treatment has not been applied to any extent, but only made use of sporadically.

Although I have subtitled my paper a critical review, one of its objects is of the nature of a plea in favour of valuable preparations likely to prove of the very greatest service in combating so fell and protean an infection as syphilis, and in preventing some of its direst consequences, disastrous alike to the individual and the community. I make no apology, therefore, for bringing the matter before you, and I am sure that with your active American minds, so quick to seize on the practical aspects of life, you will have grasped the force of the evidence which I have placed before you. I have done this in a fair and impartial manner, being fully alive to the responsibility which such a presentation entails. This fact makes it necessary that I should detain you yet a little longer in order to touch on the technique of the insoluble injections.

In dealing with this part of my subject to save time I will give the details of the manner in which I myself carry out the intramuscular injections, but in the bibliography which I have appended references will be found by those wishful of going more thoroughly into the matter; indeed, it is very desirable that anyone contemplating the employment of the method should make a point of doing so.[34] For the insoluble preparations the Edmond Fournier and the Lévy-Bing-Lafay syringes should be used and not an ordinary Pravaz, as usually recommended. The Fournier model is all glass and of ½ cubic centimetre capacity, divided into ten on the barrel, so that each division represents 2 centigrammes of mercury or of calomel, the standard preparations being, as I have said, 40 centigrammes of mercury to 1 cubic centimetre (*huile grise*) and 40 centigrammes to 1 cubic centimetre (concentrated calomel preparations) respectively.

The Lévy-Bing-Lafay syringe has been specially devised for the 40 centigrammes to 1 cubic centimetre preparations. It is all glass and nickel with bayonet adjustment for the cap, making the parts readily detachable. In this syringe the piston rod itself is graduated, being divided into 15, each division representing 1 centigramme of the 40 centigrammes to 1 cubic centimetre preparation (*huile grise* and calomel), thus rendering the instrument very practical. Fifteen centigrammes is the maximum dose that may in certain very special cases be employed without producing toxic effects, but I would warn you that it is advisable to be satisfied as a rule with doses not exceeding 10 centigrammes for men and 5 to 7 centigrammes for women.

As to the Zambeletti preparations of calomel they are put up in phials containing 5 to 10 centigrammes of calomel, so that any good ordinary glass syringe can be used. The syringes are sterilised by boiling in the usual way. As to needles, they are of iridized platinum with gold mounts, and can be passed through a flame before fitting to the charge syringe, but I prefer to boil them at the same time as the syringe. Their length is an important matter in the case of the insoluble preparations with which I am at present concerned—viz., not less than 5 centimetres. But needles of various lengths are required: 6, 7, 8 centimetres for fat subjects, in order to get the preparation well into the muscle. The bevelled end must be kept sharp to avoid giving pain. This is effected by means of small pieces of Arkansas stone. The lumen must be sufficient, but not too large. The needles

can be kept in paraffinum liquidum or in alcohol. Before using them their permeability must be ascertained.

With regard to the parts of the buttocks where the injections are to be made I have come to the conclusion that an area round a point midway between the gluteal cleft and the anterior superior iliac spine is the most useful. Lévy-Bing[35] has gone into the matter by means of actual dissections and gives the following directions. Through the middle of a line joining the gluteal cleft and the anterior superior iliac spine he drops a perpendicular, and describes a circle with its centre at the point of intersection and with a radius of three centimetres. In each of the quadrants thus formed he makes an injection. There are also other suitable positions,[36] but the point is to keep to the upper parts of the buttocks well away from the danger zone of vessels and nerves, which can be readily ascertained by a reference to anatomical plates[37] or to bodies in the dissecting room.

The following is the *modus operandi*. The injections should be made with the patient lying on a couch in the prone position. The part of the buttock selected must be thoroughly sterilised (soap, ethereal soap, alcohol, ether, and so forth). The sterilised needle is then attached to the nozzle of the empty sterilised syringe and plunged perpendicularly and rapidly through the skin into the subjacent muscle. The piston is gently drawn up two or three times in the barrel in order to make sure that the point of the needle has not penetrated a vessel. If any blood appear the needle may be either withdrawn a little and the test repeated or withdrawn altogether and another spot selected. It is, I need scarcely add, important *not* to inject an oily preparation into the lumen of a vessel. Personally, I have never drawn blood up in the syringe on applying this preliminary test, but nevertheless I always make the trial as a matter of routine. The barrel is then detached from the needle, which is left in place. The "*huile grise*" or calomel is then drawn up into the barrel directly from the *flacon*, an easy matter with Edmond Fournier's small calibre syringe. Here it is necessary to point out that the mercurial preparations should be slightly warmed, not heated, and well shaken up before charging the barrel. The dose required, 5, 6, or more centigrammes, as the case may be, is then drawn up into the barrel, which is re-attached to the needle, and if no blood has appeared at the mount of the needle the dose is slowly but firmly pushed home in the muscle. Duhot recommended that after this has been done some air or a little sterilised saline solution should be drawn up into the barrel, detached for a second time for that purpose, and in its turn pushed home in order to clear the needle of any preparation remaining on it, and thus avoid leaving a track of grey oil when the needle is withdrawn. Tracks of this kind may lead to small superficial furuncles. I have always used air and I have never seen any untoward result ensue. There is no need to massage the part, as is sometimes recommended. The orifice is covered with a small piece of zinc oxide plaster or collodion and wool. A careful record should be kept of the quantity injected at each sitting and the point injected. In the case of these insoluble preparations one injection a week is the rule. The injections should be made in the right and left buttock alternately. In every case, and especially when the insoluble preparations are employed, the patient should be previously thoroughly overhauled as regards the state of his mouth, the condition of the urine as to albumin, &c., his weight estimated, and so forth. I have already insisted on the condition of the teeth, any defect being put right by a dental surgeon before starting the treatment. This is an essential point, and may mean everything as regarded the future course of the treatment. During treatment the urine must be watched, as also the state of the gums and buccal mucous membranes, by examination with the frontal mirror and reflected light, in order that any warning may bid you to stop the injections.

Again, I would insist that all methods have their advantages and disadvantages. In selection one must be eclectic and it is of the greatest importance not to go off one's head in favour of any one method to the exclusion of all others. Every case must be dealt with on its merits and the various circumstances surrounding it taken into account. Injections of insoluble preparations must not be employed in a routine manner for all and sundry. In some cases they are absolutely contra-indicated, as in old people, the broken-down, the bed-ridden, paraplegic, and those with renal inadequacy or presenting albuminuria, patients suffering from tuberculosis, lead-poisoning, or decidedly gouty, and alcoholics. I have already called attention to the unsuitability of cases suffering from the devitalising effects of malaria and tropical fevers, as also of pregnant women. One must be specially careful in the case of women.

On a variety of other points I would refer you for full details to the quite recent contributions of Emery and Chatin, whose exhaustive and thorough work will well repay study, and of Lévy-Bing, who has written a succinct monograph on the subject.[34] Although I have dealt mainly with the insoluble preparations of mercury, for reasons stated, I have no desire to minimise the value of the soluble salts. The latter are often of the greatest utility, and I would here testify to the good results I have obtained with the hypertonic benzoate of mercury as prepared in accordance with the directions of Professor Gaucher. There are also a number of mercurial solutions, which all have their place and with which you are familiar.

In conclusion, I desire to thank you, Mr. President and gentlemen, for the opportunity you have given me of submitting the foregoing remarks to your judgment and for the honour you have done me in inviting me to take part in the work of your great Medical Association.

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Harley-street, W.

AN INVESTIGATION INTO THE ACTION AND USES OF FIBROLYSIN IN MIDDLE-EAR DEAFNESS.

BY J. GAY FRENCH, M.S. LOND., F.R.C.S. ENG.,

SURGEON-IN-CHARGE OF THE EAR, NOSE, AND THROAT OUT-PATIENTS, GREAT NORTHERN CENTRAL HOSPITAL; ASSISTANT SURGEON TO THE CENTRAL LONDON EAR, NOSE, AND THROAT HOSPITAL, GRAY'S INN ROAD, W.C.

IN 1892 von Hebra[1] published the results he had obtained with a 15 per cent. solution of thiosinamine in alcohol in the treatment of lupus and cutaneous scars. He used this solution by the injection method and showed that it had a very marked action in dissolving pathological fibro-cicatricial tissue. Thiosinamine is a substance which is chemically known as allyl-sulpho-urea. It is prepared from oil of mustard and occurs in colourless monoclinic or rhombic crystals with a bitter taste and an odour of garlic. It is an unstable compound, insoluble in water, but dissolving freely in alcohol. The physiological action of thiosinamine is, in the first place, to cause a diminution of the number of leucocytes in the blood, followed later by a very considerable increase. Its action on scar tissue is very definite. Macroscopically, after an injection a reddish scar, such as that after a burn, becomes paler, swollen, and more flexible, and the limited movements of the parts bound down by the scar tissue are increased in range, but after a short time these phenomena disappear. If, however, the injections are repeated at short intervals it is found that the above-mentioned conditions become permanent. Microscopically, turgescence is seen to take place in the individual connective tissue fibres; their outline becomes blurred and indistinct, the nuclei are pushed aside and appear more prominent, and the whole tissue becomes swollen and looser in texture. A curious feature of thiosinamine is that its action is only exerted on pathological fibrous tissue. The objections to its use are its instability, its insolubility, and the extreme irritation caused by the injection of its alcoholic solution. Felix Mendel[2] of Essen, however, discovered that by the combination of two molecules of thiosinamine with one of salicylate of soda a substance was produced which was easily soluble in water, was comparatively stable, and did not give rise to any irritation on the injection of its aqueous solution. To this substance—which retained all the properties of thiosinamine—was given the name of "fibrolysin."

I first saw the beneficial results obtained by its use some three years ago in two cases. The first was one of Dupuytren's contraction of the fingers, in which a fair, though not very good, result was obtained. The injections were given about once a fortnight, the fingers were frequently moved, and the hand was placed on a straight splint in the intervals; the result would in all probability have been much better had the injections been given twice a week instead of once a fortnight. The second was a case of Volkmann's contractūre (the so-called ischæmic paralysis), in which a very excellent result was obtained after frequent injections. These results led me to think that fibrolysin might prove a very valuable therapeutic agent in the treatment of aural cases, and particularly in those where, as a result of suppuration or catarrh, a development of fibro-cicatricial tissue had taken place in any portion of the conducting apparatus of the ear.

In my first series of cases the results were not generally satisfactory; some cases certainly showed fair improvement, but the greater majority were in no way benefited. At this time I had been giving the injections once a fortnight, and I determined to increase them to twice a week and at the same time to apply it locally to the middle ear through an Eustachian catheter—a method employed with success by André Horeau in connexion with thiosinamine. The results immediately improved. The method which I employ is to use one ampulla of fibrolysin containing 2·3 cubic centimetres—roughly 40 minims—as follows: 30 minims are injected subcutaneously into the upper arm, and 5 minims are insufflated through an Eustachian catheter into each middle ear. After an interval of 15 minutes massage is applied on each side for from three to five minutes by means of an oto-masseur. This routine is gone through twice a week for six weeks; if at the end of that time there is no definite improvement my experience is that the case is a hopeless one, and that it is useless to persevere with the treatment.

The cases in which I have systematically carried out this treatment are those of deafness and tinnitus resulting from (1) post-suppurative middle-ear catarrh, where there has been a cessation of discharge with formation of scar tissue and destruction or ankylosis of the ossicles; and (2) chronic dry middle-ear catarrh—i.e., non-suppurative catarrh—retracted membranes, with or without ankylosis of the ossicles.

The number of cases that have had the six weeks' treatment have been 68. Of these, 21 were cases of post-suppurative middle-ear catarrh and 47 were cases of chronic dry middle-ear catarrh. Of the 21 cases of post-suppurative middle-ear catarrh, 16 had tinnitus and five had no tinnitus. Of the 16 with tinnitus, four were complete failures; there was no improvement in hearing or diminution in the noises—indeed, one patient stated that she was much worse in both respects. Six had no improvement in hearing, but stated that the noises were less; two of these stated that the noises had completely ceased, and they thought they could hear a little better (this, however, was not borne out by the tests). Six showed good improvement in hearing to the tests, and stated that the noises were diminished in three, completely ceased in two, and no better in one. Of the five cases with deafness but with no tinnitus, two showed no improvement and three showed improvement. Of the 47 cases of dry middle-ear catarrh, 36 had tinnitus and 11 had no tinnitus. Of the 36 with tinnitus, 11 were complete failures; eight showed no improvement in hearing to the tests, but stated the noises to be diminished (completely ceased in two); and 17 showed improvement in hearing to the tests, and of these, six stated that there was no diminution in the noises (though in one they had become intermittent instead of being constant), eight stated the noises to be diminished, and three reported the noises to have quite ceased. Of the 11 without tinnitus, seven showed improvement to the tests and four showed no improvement.

In order to prove that it was the fibrolysin and not the Eustachian catheter and the oto-masseur which brought about the improvement, 15 of the above cases—all with tinnitus as well as deafness—were first treated by the catheter and massage for six weeks without having any fibrolysin, and their tests taken; they were then put on the fibrolysin course, and at the end of the six weeks of fibrolysin treatment their tests were again taken and the three sets of tests were compared. It was found that in seven out of the 15 there was no improvement in hearing, though two out of these seven reported diminution in the tinnitus. The accompanying table shows the improvement in the eight cases which received benefit—three of post-suppurative middle-ear catarrh and five of chronic dry middle-ear catarrh.

It will be seen that in Cases 1 and 5 there was a slight improvement in both ears after the six weeks' catheterisation and oto-massage, but a very much greater improvement took place under fibrolysin. It will also be noticed that the post-suppurative cases gave more consistently good results—i.e., greater improvement—than did the chronic dry catarrhs; moreover, in all the above, with two exceptions, the tinnitus was improved and in one it had quite ceased.

I turn next to the question of the permanency of the results obtained. Of the 16 cases showing improvement in hearing and diminution in tinnitus, ten were treated a year ago or over and have had no treatment since; four were cases of post-suppurative middle-ear catarrh. Of these one only has had a relapse in both hearing and tinnitus; in two the improvement in hearing is maintained, but the noises slightly returned; and in one the improvement in hearing is maintained and there has been no return of the tinnitus. Six were cases of the dry catarrhal type. Of these two have relapsed (one patient states that she is just as bad as ever, the other has had a return of the tinnitus and there is a slight diminution in

[1] Von Hebra: Intern. Klinische Rundschau, Sept. 11th, 1892.
[2] Felix Mendel: Therapeutische Monatshefte, February and April, 1905; and Therapie der Gegenwart, August, 1905.

Table giving the Results of Eight Cases after Treatment.

Number of case and nature of disease.	Tests applied and results.	Results after six weeks' treatment with Eustachian catheter and otomasseur.	Results after six weeks' treatment with fibrolysin.
Case 1. Double non-suppurative dry middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −16	− 11	− 4
	T. F. C¹ 256 Meatus L. −15	− 14	− 6
	T. F. C¹ 256 Mastoid R. + 7	+ 7	+ 3
	T. F. C¹ 256 Mastoid L. +10	+ 9	+ 4
	T. F. C¹ 256 Rinné R. − 7	− 8	− 3
	T. F. C¹ 256 Rinné L. −10	− 9	− 5
	Watch R., 6 in.	6½ in.	9 in.
	Watch L., 4 ,,	4½ ,,	7 ,,
	Whisper R., 3 ft.	3½ ft.	5 ft.
	Whisper L., 2 ,,	2½ ,,	4 ,,
	Tinnitus.—A loud constant "buzzing" in both ears.	Slightly diminished in both ears.	Noises now intermittent and much diminished in intensity in both ears.
Case 2. Double post-suppurative middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −16	− 16	− 9
	T. F. C¹ 256 Meatus L. −19	− 20	− 10
	T. F. C¹ 256 Mastoid R. +10	+ 11	+ 4
	T. F. C¹ 256 Mastoid L. +12	+ 12	+ 6
	T. F. C¹ 256 Rinné R. −11	− 10	− 8
	T. F. C¹ 256 Rinné L. −12	− 12	− 8
	Watch R., 2½ in.	2½ in.	5½ in.
	Watch L., 2 ,,	1½ ,,	5 ,,
	Whisper R., 1 ft.	1 ft.	3 ft.
	Whisper L., 8 in.	6 in.	2 ,,
	Tinnitus.—Constant "ringing" in both ears.	No improvement.	Much diminished.
Case 3. Double non-suppurative dry middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −20	− 20	− 10
	T. F. C¹ 256 Meatus L. −14	− 12	− 8
	T. F. C¹ 256 Mastoid R. +10	+ 8	+ 4
	T. F. C¹ 256 Mastoid L. + 8	+ 8	+ 6
	T. F. C¹ 256 Rinné R. −11	− 10	− 6
	T. F. C¹ 256 Rinné L. − 6	− 6	− 5
	Watch R., 2 in.	2 in.	6 in.
	Watch L., 3 ,,	3½ ,,	4 ,,
	Whisper R., 1½ ft.	2 ft.	4 ft.
	Whisper L., 2½ ,,	2 ,,	3 ,,
	Tinnitus.—Constant "buzzing" in both ears.	No improvement.	"Thinks noises are much better."
Case 4. Double post-suppurative middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −14	− 15	− 8
	T. F. C¹ 256 Meatus L. −10	− 8	− 5
	T. F. C¹ 256 Mastoid R. +10	+ 11	+ 3
	T. F. C¹ 256 Mastoid L. + 6	+ 5	+ 2
	T. F. C¹ 256 Rinné R. − 8	− 9	− 4
	T. F. C¹ 256 Rinné L. − 5	− 5	− 2
	Watch R., 4½ in.	4 in.	10½ in.
	Watch L., 6 ,,	7 ,,	24 ,,
	Whisper R., 3 ft.	3 ft.	6 ft.
	Whisper L., 4 ,,	5 ,,	10 ,,
	Tinnitus.—Constant loud "hissing" in both ears.	Slightly diminished.	States that he very rarely has any noises now.
Case 5. Double post-suppurative middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −26	− 24	− 8
	T. F. C¹ 256 Meatus L. −16	− 15	− 6
	T. F. C¹ 256 Mastoid R. +14	+ 14	+ 6
	T. F. C¹ 256 Mastoid L. +12	+ 11	+ 4
	T. F. C¹ 256 Rinné R. −14	− 13	− 7
	T. F. C¹ 256 Rinné L. − 8	− 8	− 4
	Watch R., 2 in.	2 in.	12½ in.
	Watch L., 3 ,,	3½ ,,	18 ,,
	Whisper R., 1 ft.	16 ,,	3 ft.
	Whisper L., 2 ,,	2½ ft.	5 ,,
	Tinnitus.—Constant "roaring" in both ears.	Slightly diminished.	Noises markedly diminished and intermittent in left ear. Much diminished but constant in right ear.

Table giving the Results of Eight Cases after Treatment—(Continued).

Number of case and nature of disease.	Tests applied and results.	Results after six weeks' treatment with Eustachian catheter and otomasseur.	Results after six weeks' treatment with fibrolysin.
Case 6. Double non-suppurative middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −20	− 20	− 8
	T. F. C¹ 256 Meatus L. −34	− 31	− 16
	T. F. C¹ 256 Mastoid R. +14	+ 12	+ 6
	T. F. C¹ 256 Mastoid L. +18	+ 16	+ 12
	T. F. C¹ 256 Rinné R. −12	− 12	− 5
	T. F. C¹ 256 Rinné L. −17	− 16	− 9
	Watch R., 1 in.	1½ in.	10 in.
	Watch L., 0	0	2 ,,
	Whisper R., 1 ft.	1 ft.	4 ft.
	Whisper L., 8 in.	10 in.	1½ ,,
	Tinnitus.—Loud, constant "buzzing" in both ears.	Same.	States noises are not so loud as formerly.
Case 7. Double non-suppurative middle-ear catarrh.	*T. F.* C¹ 256 Meatus R. −25	− 26	− 14
	T. F. C¹ 256 Meatus L. −28	− 24	− 12
	T. F. C¹ 256 Mastoid R. +14	+ 14	+ 10
	T. F. C¹ 256 Mastoid L. +16	+ 15	+ 8
	T. F. C¹ 256 Rinné R. −10	− 10	− 8
	T. F. C¹ 256 Rinné L. −12	− 11	− 7
	Watch R., C.	C.	2 in.
	Watch L., C.	½ in.	4½ ,,
	Whisper R., 1½ ft.	2 ft.	2½ ft.
	Whisper L., 1 ,,	1½ ,,	3 ,,
	Tinnitus.—Loud, constant "ringing" in both ears.	Same.	No improvement.
Case 8. Double non-suppurative middle-ear catarrh.	*T. F.* C¹. Meatus R. −10	− 10	− 8
	T. F. C¹. Meatus L. −18	− 19	− 10
	T. F. C¹. Mastoid R. + 6	+ 6	+ 4
	T. F. C¹. Mastoid L. +12	+ 13	+ 6
	T. F. C¹. Rinné R. − 7	− 7	− 5
	T. F. C¹. Rinné L. −11	− 12	− 7
	Watch R., 2 in.	2½ in.	4 in.
	Watch L., ½ ,,	½ ,,	3 ,,
	Whisper R., 2 ft.	2½ ft.	4 ft.
	Whisper L., 14 in.	1 ,,	2 ,,
	Tinnitus.—Constant loud "buzzing" in both ears, especially marked in left ear.	Same.	No improvement.

T. F. = tuning-fork. C. = contact. R. = right. L. = left.

the hearing power); four have retained their improvement in hearing, but in two of these there has been in one in whom the noises had quite disappeared an occasional return of the tinnitus, and in the other in whom the noises had considerably diminished there has been a slight increase. Two have retained their improvement in both respects.

Conclusions.—To epitomise briefly the results obtained it will be seen that of the 52 cases of deafness *plus* tinnitus the hearing improved and noises diminished in 16 (noises quite ceased in five of these); hearing improved, but noises not diminished in seven; noises diminished, but no improvement in hearing in 14 (in four of these the noises have quite ceased), and no improvement in hearing and no diminution of noises in 15. In the 16 cases of deafness without tinnitus, ten showed improvement to the various tests.

From the results obtained it would appear that this method of treatment was more successful in the non-suppurative than in the post-suppurative cases; but whilst this was so in regard to the percentage of cases showing improvement in hearing and diminution in tinnitus, yet when taken from the point of view of the amount of improvement produced the post-suppurative cases gave far better results; and I arrived at the conclusion that the fibrolysin treatment is by far the best treatment in this class of case—the earlier the case is treated after cessation of the discharge and formation of the scar tissue the better the prognosis. I think that from the results obtained it will be seen that in cases of non-suppurative middle-ear catarrh this method of treatment gives much

better chances of improvement than any other. I must, however, make an exception in the atrophic variety of non-suppurative middle-ear catarrh—the variety in which one finds, on examination with a Siegle's speculum, a very thinned tympanic membrane with an abnormal amount of movement, with marked outward bulging on the application of suction. In this type of case fibrolysin proved quite useless. In true oto-sclerosis the results obtained with fibrolysin were very poor; only two out of 15 showed any improvement, and that very slight.

In only one of my cases were there any bad symptoms produced by the injections. This was a case of a young woman, aged 25 years, with double non-suppurative middle-ear catarrh of two years' duration. She was put on the fibrolysin course, but this had to be stopped owing to her developing marked vertigo after each injection. A number of other cases in which bad symptoms have followed the injections have been reported from time to time,[3] but the above was the only one in my personal experience.

I must, in conclusion, express my thanks to my late clinical assistant at the Great Northern Central Hospital, Dr. Edgar Brown, for having very carefully taken the various tests and kept the records of the cases.

Harley-street, W.

THE FATE OF DAMAGED JOINTS:

A STUDY OF CASES OF INJURY, PRINCIPALLY FRACTURES, INVOLVING JOINTS TREATED IN THE MASSAGE DEPARTMENT OF THE LONDON HOSPITAL.

BY RICHARD WARREN, M.D., M.CH. OXON., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL; FORMERLY SURGICAL REGISTRAR TO THE LONDON HOSPITAL.

(*Concluded from p. 141.*)

The Wrist.

THE most striking feature of this series is the enormous predominance of Colles's fracture; 103 cases out of 110 were of this nature. Taking the remaining seven cases first, these consisted of two cases of sprained wrist, which did well in from two to three weeks (the patients were seen a year or more afterwards); two cases of fracture of the styloid process of the radius, both of which did well in from six to eight weeks. One case of splitting off of a flake of the lower part of the radius, including the lower radio-ulnar articulating surface (this case showed a very fair result a year later); one case of fracture of the styloid process of the ulnar alone (not traced); and one case of fracture of the scaphoid and probably also of the trapezium and trapezoid (this patient attended for five weeks and did not show satisfactory progress when last seen).

Colles's fracture.—Of this group 91 were recent cases of fracture, and 12 were cases of some standing before massage and exercises were commenced. In judging the results the following standard has been used: 1. Very good: Subjectively perfect for any sort of work; in some cases slight deformity was present. 2. Good: Able to do heavy work—e.g., as labourer, cobbler, washing, and wringing, but with a little pain at times and perhaps slight deformity. 3. Very fair: Able to do fairly hard work—e.g., washing but not wringing, i.e., some weakness present. 4. Fair: With a fairly strong grip, and able to do light work—e.g., sewing but not heavy work or washing. 5. Bad: Unable to work at all from swelling, stiffness, and pain.

It will be noted how much the occupations of women came into this list, a natural consequence of the preponderance of middle-aged and old females amongst the subjects of this fracture. Twenty-one cases were not traced, slipping away in the earlier part of treatment. Of the 70 cases traced, the results were as follows: Very good, 12; good, 36; very fair, 7; fair, 9; and bad, 6. In other words, two-thirds of the cases were useful working results, while 1 case in 12 was hopelessly bad.

Age.—Taking now the various factors which influence results, one of the more, possibly the most, important is age. This is shown by the average ages of the various results which were as follows: Very good, 48; good, 43; very fair, 49; fair, 47; and bad, 59. The subjects of the cases which did badly were on the average ten years older than the other patients. That age, however, is no bar to good recovery is shown by the good results in two cases in which the patients were over 70 years of age, and in eight cases in which they were over the age of 60 years. Under 40 years of age all cases showed good or very good results.

Length of time of fixation.—The time during which the joint is kept fixed before massage and movement are begun is important. Thus of cases kept splinted for less than 14 days before massage, 37 were good and seven were not good—i.e., very fair to bad; of cases kept splinted for from three to six weeks, nine were good and six were not good.

Severity of fracture.—In this series only a quarter of the cases X rayed showed fracture of the styloid process of the ulna; the usual percentage given is about 50. Of nine cases with fractured styloid process of the ulna, seven were good and two were bad—i.e., 1 case in 4 was bad, a higher percentage than is shown by the series as a whole.

Deformity and results.—Gross deformity is apt to be associated with poor result, yet several cases with bad deformity had good working hands and wrists. Of seven cases with bad deformity three were good, one was fair, and three were bad as regards function. As was previously mentioned, the bulk of the cases showed slight deformity, about one-sixth of the cases being perfect anatomically. The results, then, in cases where the styloid process of the ulna is fractured and where deformity is great show the importance of the initial damage in the prognosis.

Duration of treatment.—The time required for treatment varied from about three to 30 weeks, depending on the length of preliminary splinting and fixation and on the age, as the following table shows, for cases in which the results were good or fair.

Number of cases seen.	Weeks treated, average of	Average of fixation in weeks.	Average age.
7	2-4	1	34
12	4-6	1½	44
8	6-8	1¾	53
12	8-12	2 1/8	47
9	12-18	3½	60
2	18-24	3½	50
2	24-30	4	70

The duration of fixation would seem from these figures to be of more importance than the age of patients in prolonging the time necessary for treatment.

Conclusions about Colles's fracture.—1. The length of time necessary for treatment before function is restored varies with the length of time the joint is fixed on a splint before massage and movements are instituted. 2. Reduction of the fracture is generally possible to some degree, but seldom entirely. 3. Fixation must be very limited both in amount and duration; an anterior cane splint acts well; a posterior splint is injurious to the tendons and ligaments at the back of the wrist and should not be used, strapping should on no account be applied, and bandaging should be very light. 4. In cases where deformity is slight and does not tend to increase, good results may be obtained without using splints. 5. A splint helps to prevent deformity, though the latter cannot be completely prevented by a splint; and excessive deformity may lead to impaired use of the limb. 6. Deformity, then, although not of prime importance, is best avoided if possible, but stiffness of joints and tendons is a worse evil than deformity. 7. One to two weeks on a splint will generally suffice, but in hospital practice another week may be advisable, as these patients often try to do things with the hand which are too much for the weak state of the wrist and may lead to increased stiffness and deformity. 8. Massage and finger movements should be started on the third day at latest; the wrist can be gently moved at the end of a week. 9. Exercises: In from two to four weeks, according to the state of the wrist, stronger active movements can be indulged in. We find that flexing and extending movements of the wrist combined with gripping are most beneficial; this is accomplished by means of a roller of varying diameter (to suit different ranges of grip) arranged like the roller of a jack-towel, but prevented from rotating too easily by graduated friction at one end. The patient practises rotating the roller against the friction, which is increased as the wrist grows stronger, in both directions. In some cases pronation and supination exercises are also necessary. For active movements a handle can be used,

[3] Karl Grossmann: THE LANCET, Jan. 16th, 1909; and Glas: Wiener Klinische Wochenschrift, No. 10, 1903.

made like the handles of some railway-carriage doors, with a graduated friction resistance to movements of supination and pronation. These movements can, of course, be made best against the resistance of a masseur, but in hospital practice the supply of masseurs is far too small for this purpose, and these simple machines take their place in a very satisfactory way.

Old Colles's fracture.—Of this condition 12 cases came under observation at periods varying from seven weeks to 24 years after the initial injury. But of these three could not be traced, five did well, and four did badly. Of the five that did well two of the patients were over 50 years of age, the others being young people of from 20 to 30 years of age; the bad cases were all over 56 years of age. In the case of 24 years' standing there were marked osteo-arthritic changes with tremendous lipping of the joint surfaces. Cases which came under treatment after three months did not do well except one of a child aged 11 years, but with children the prognosis is invariably good.

The Elbow.

Injuries about the elbow-joint provide an interesting and varied set of groups of cases. The varieties and numbers were as follows: Dislocations, 9; sprains, 11; osteo-arthritis, 2; fractured olecranon, 18; fractured head and neck of radius, 10; separated lower epiphysis of humerus, 28; separated internal condyle, 13; separated external condyle, 10; separated internal and external condyle, 1; fractured coronoid, 1; T-shaped fracture, 1; and supracondylar fracture, 5—total, 109.

The elbow is one of the joints most frequently involved in fractures. Injury here is essentially a trouble of childhood and adolescence. With the exception of the cases of fracture of the olecranon almost all of the patients were under 20 years of age, injuries in adults being quite uncommon. Taking the individual groups of cases the following are the particulars.

Dislocated elbow.—Dislocation of the ulna and radius backward occurred six times in children of from 10 to 12 years of age and twice in adults. Treatment lasted from five to eight weeks and all the cases did well. One case attended of old dislocation of both elbows in an adult of five months' standing which had been kept in plaster many weeks. Both elbows were very stiff at a right angle and after several months' treatment did not improve at all. This is a good example of the evils of prolonged fixation of joints in adults; I am glad to say the treatment of this case was not commenced in England.

These cases do not need a splint for more than a day or two, a sling and early massage and movement very soon restoring them to their pristine condition. Should there occur fracture of the coronoid with dislocation, and consequent tendency to re-dislocation, the joint would best be placed in acute flexion for from 10 to 14 days.

Sprained elbow.—Of this condition there were 11 cases, three being those of children from five to 14 years of age, and all did well in from four to seven weeks, though often there was extensive stiffness at the outset. It is a question whether these sprains in childhood are not associated with some undiscoverable injury to the epiphyses. In adults the results were not quite so good; two of the men, though doing heavy work as stevedore and locomotive fireman respectively, complained of incomplete extension of the elbow, and in the latter case of inability to throw coal with full power into the fire-box.

Separation of the lower epiphysis of the humerus.—Of this injury 28 cases attended, and 70 per cent. of these patients were under eight years of age; the youngest was two years old and the eldest was 16 years. In 20 cases the results were good, and about half of these were anatomically perfect; the rest were lost sight of too soon to allow satisfactory conclusions to be drawn. In three cases decided cubitus varus was found; in one case cubitus valgus. With regard to the length of time of fixation before massage and movements were applied little difference was noted. When the cases were splinted for from one to three weeks the duration of treatment averaged seven weeks, but in cases splinted for from four to six weeks treatment had to continue on the average for 13 weeks.

Separation of the internal condyle.—The usual age of these patients, of whom there were 13, varied from 12 to 17 years; the youngest was four and a half years of age, and the age of the eldest was 30 years. The results were 10 good and two fair, one of the latter developing symptoms of osteo-arthritis at the age of 16 years. The length of time the patients in this group were splinted before being massaged had little effect on the length of treatment, which varied from six to eight weeks, in one case lasting as long as 13 weeks.

Separation of the external condyle.—Of nine cases seven were of children aged from four to 10 years. In the six cases traced the result was practically good in all; but one case showed excessive callus about the external condyle, with partial dislocation of the head of the radius and impaired power of extension in an otherwise very useful limb.

Fracture of both external and internal condyles.—One case was noted in a man aged 30 years, which was put up in acute flexion, did well in seven weeks, and was perfect a year later.

Supracondylar fractures of the humerus.—Two children aged six years, and three adults aged from 34 to 60 years, form the total of these cases noted. In the cases of the two children the results were good; in the case of the only adult who was traced the result was fair.

T-shaped fracture of the lower end of the humerus.—One patient, aged 17 years, was wired and treated by movement for a month; when seen a year later he had a useful joint with slightly impeded flexion and extension.

Conclusions with regard to injuries of the lower end of the humerus.—Fractures of the lower end of the humerus, which, as will be seen from the above figures, are usually separated epiphyses, do surprisingly well in spite of initial troubles such as excess of callus, great stiffness, and some deformity. Callus melts away after persisting for months in a most gratifying manner, and in very few cases does one find a great mass of it a year or more afterwards. Gross callus was only noted in two of the cases mentioned here, and both were fractures of the external condyle. Stiffness is overcome by persistent massage and exercises, flexing and extending the forearm against a pulley-weight resistance. Deformity in cases of injury to the lower end of the humerus occurs in four directions—viz., limited flexion, limited extension, cubitus varus or outward kinking of the elbow, and cubitus valgus or kinking inward of the elbow. The first condition, that of diminished flexion, is the most important, and when severe is due to a slipping and rotation backward of the lower fragment of the humerus, so that the ulna can flex completely on the lower fragment without being flexed on the humerus as a whole to anything like the proper extent. This indicates the necessity of flexion in putting up fractures of the lower end of the humerus. When in doubt as to the exact position of the lower fragment flexion of the elbow should be as acute as possible, without causing pressure on the soft parts, which tend to swell. Flexion can be made with safety, perhaps, only to a right angle at first, but by degrees in a few days flexion can be made more acute. Again, when passive movements are commenced—say in from seven to ten days—flexion and not extension should be the early movement.

Incomplete extension of the elbow, though fairly common to a slight extent, is seldom of importance practically; it occurs not only in separation of the epiphyses, but also in sprains and dislocations. It can be overcome by gradually increasing extension movements of the joint, both active and passive; finally, by hanging the body-weight from the arms on the horizontal bar.

The "carrying angle" of the elbow, of which a good deal is made in books, is of slight practical importance. The deviations from the normal, called respectively cubitus varus and cubitus valgus, are seldom great, and unless very great do not interfere with the use of the arm. Cubitus varus is the more common of these two deformities and was found in three out of 28 cases, but in each case, although the elbow appeared awkward and unsightly, the function was good. It is only exceptional movements that are affected by this condition—for instance, striking out a rapid straight blow in boxing or in stoking, or pitching coal with a hard straight-forward thrust.

Valgus is less common—one case was found in 28—and has little immediate effect on the use of the limb. The importance of this condition is that in after years occasionally pressure on the ulnar nerve is produced with pain and paralysis.

Treatment of injuries to the lower end of the humerus.—In most of the cases of this series the elbow was kept fixed at a

right angle, best with a posterior gutter-splint. Acute flexion is a safer method when X rays are not at hand to ascertain the exact position of the fragments in order that there may be no risk of rotation backward of the lower fragment and consequently incomplete flexion, but with acute flexion the after-treatment is slightly longer—viz., nine weeks instead of seven on the average.

In these cases the elbow may be moved with safety in a week in the direction of flexion, and pronation and supination movements can be made. There is little harm, however, in leaving the joints of young persons fixed for three weeks. As regards the amount of callus, I have never been able to convince myself that early movement increases callus; on the contrary, some of the cases with the greatest mass of callus had been fixed for several weeks without movement.

Operation is hardly ever required for separation of epiphysis in this region, for in these small patients the parts have a much greater power of repair and adapt themselves much better to circumstances than is the case with adults, in whom comparatively slight displacement is apt to be followed by osteo-arthritis due to a different manner of wear-and-tear of the joint, and in whom, therefore, it is much more important to get accurate apposition of fragments, and operation will be more often necessary.

That osteo-arthritis can develop in the young, is shown by one case of a lad, aged 16 years, whose elbow after a fracture of the external condyle showed well-marked changes of this nature.

Further, in children bone, particularly recently formed bone, can be bent to a considerable degree by muscular efforts continued over a long period of time. It is well known how, after excision of the knee, the hamstrings produce gradual flexion of the originally straight knee, unless a rigid support be applied, a flexion going on for years, although the bone is solid and firmly united; similarly in displacements of epiphyses, by constant exercises the fragments, although united, are pulled in the right direction. Thus a great improvement in shape and function can be attained, and hence the value of continued and carefully arranged exercises in cases where there is deformity. Gentle active movements may be used early and together with passive movements, and are of greater value in restoring the use of the joint.

Fractured olecranon.—There were 18 cases, of which four were wired by open operation. The cases traced showed 12 good and one fair result. The duration of treatment averaged from eight to 10 weeks, whether the cases were operated on or not. The cases not treated by operation were such as had very little or no separation except one, which gave a fair result with one inch separation. Separation of the fragments depends largely on the position of the fracture; when near the tip of the olecranon there is much more likelihood of wide separation than when the fracture is nearer the base.

Cases of fractured olecranon with obvious separation are best wired, though fibrous union and considerable separation may coexist with a very useful elbow.

Cases with little or no displacement can be slung slightly flexed and massaged and moved from the outset. Care must be taken when applying a straight splint for this injury to people of middle age, for the constriction of the splint and bandage together with the dependent position of the hand are apt to be followed by a long-lasting œdema and stiffness of the hand and wrist, which is far more crippling than fibrous union of the olecranon. In brief, if the arm will not admit of flexion to nearly a right angle without much displacement of the fragments operation is the best resource.

Fractured coronoid process.—One case of this injury occurred in a lad, aged 17 years, and was perfect in three months.

Fractures of the upper end of the radius.—In this group are cases where the head of the radius was broken in one or more places or more usually in which the head was broken off the neck, in which case it was usually a separation of the epiphysis. Ten cases of this nature were seen, of which eight were those of children of from seven to 13 years of age, while two patients were men of about the age of 30 years. In seven cases the neck was fractured or the epiphysis of the head was separated and in three the head was fractured. The cases in children were all of good results; those of the men, in which the head itself was fractured, were of only fair results, flexion being limited in one case and extension in the other. Treatment averaged from seven to ten weeks, in one case being as long as 20 weeks.

These cases require nothing but a sling and massage from the start, splinting is here of no avail. If stiffness supervenes, excision of the head of the radius may be performed; after this operation, and also in excision of the head for old-standing dislocation of the radius, there is a tendency for supination to be limited; my impression is that enough bone is not removed and should advise in these cases the removal of as much of the neck as is possible without interfering with the biceps tendon.

The Shoulder.

In this series are included contusions, dislocations, fracture dislocations, fractures of the anatomical and surgical necks, and a few cases of injury to the clavicle, acromion, and great tuberosity.

Dislocations.—There were 25 cases of recent dislocation of the humerus, the ages of the patients varying from 20 to 70 years. In four of them there was severe damage to the brachial plexus or some of its cords. The results were: ten good, five fair, one bad, and nine not traced. Of the cases with nerve injury one was very fair, one was bad, and two left off treatment in three months and were not traced. Treatment as a rule lasted from four to eight weeks. It was very noticeable how prolonged fixing of the shoulder necessitated longer after-treatment; two cases in which the arm was fixed for one month to the side requiring 20 weeks and more of exercises and movements before useful function was restored. The last movement to recover, and the one to remain impaired in those cases which did not perfectly recover, is that of the deltoid. This is due, perhaps, in some cases to slight injury to the fifth cervical nerve trunk; more usually I suspect to keeping the arm overlong at the side and so overstretching the deltoid.

Old dislocations.—There were five cases. One case, not seen until four weeks after reduction of the dislocation, did perfectly. Of three cases not seen for three months after reduction one did well, but the patient was only 22 years of age; the other two, aged 63 and 69 years respectively, were fair results; but the remaining case, in which treatment did not commence for a year after the injury, did not improve at all. These cases required longer for treatment than recent cases—viz., about three months.

Recurrent dislocations.—Three cases. One patient, an epileptic, in whom the right shoulder had been dislocated six times and the left 30 times, did not attend long enough to afford any useful information. Of the other cases, one patient had experienced dislocation six times in six months, the other nine times in 12 months. After a few weeks' treatment the latter was found six months later not to have been re-dislocated, while the former was in good order 18 months later.

Treatment.—In the treatment of dislocated shoulders, after reduction it is most important to find out whether there be any nerve injury, a not uncommon complication, as is shown by the cases quoted above; for whatever is to be the outcome of operations on nerves, freeing, anastomosing, splicing, &c., and at present it is far too early to dogmatise on the results of operations which may take years to be fully developed, it is as well to know at the outset whether any nerve be injured, both in order that it may not later be attributed to bandaging, &c., and that when present its consequences may not be aggravated by treatment.

Except in epileptics or patients recovering from an anæsthetic there is no necessity for bandaging the arm to the side; a sling will be quite sufficient, as a considerable amount of abduction of the arm is necessary to produce re-dislocation. Massage should be used from the beginning, for the movement can be started in from two to three days as a rule, and should consist of forward and backward movements—i.e., flexion and extension of the humerus, and rotation of the latter to prevent the formation of adhesions. Abduction beyond 45° from the perpendicular should be avoided for several weeks, since this is the position likely to produce dislocation—these movements should be active as well as passive; later, circumduction should be practised. A very useful and simple machine for practising active movements consists of a large wheel three feet in diameter, with the axis horizontal and about the height of the shoulder; the handle which turns the wheel is so arranged that the distance from the centre of rotation can be diminished or increased; by turning this wheel movements of circumduction of the shoulder of increasing amplitude are

performed. Later exercising with the pulley weight machine to strengthen the deltoid and triceps is made use of, and finally hanging by the arms to get extension over the head, which is the function of the shoulder most difficult to restore.

It is sufficiently clear from the cases mentioned that early movement means early cure, that delayed movement means lengthy cure or perhaps permanent disability, and that recurrent cases are improved by the restoration of muscular tone with regular exercises.

Fracture dislocation.—Four cases of this injury attended: in two of them the head of the humerus had been excised. Of the latter cases, one, a youth, had an arm which was useful for underhand movements; he could swim well side-stroke, but abduction beyond 45° was impossible. In the other, a middle-aged person, the arm was of little use. The other two cases treated by fixation for a short time and then movement and massage did fairly well, getting abduction to the horizontal or more and good power in the arm. These cases bear out the conclusions of Scudder and Mason from the study of a number of cases of this nature—viz., that operation with replacement of the head of the humerus *in situ* is satisfactory, but that excision of the head gives poor results as a rule, and that the more head and neck that has to be removed the less the working capacity of the limb.

Contused shoulder.—In all the five cases of this nature treated there was great weakness of the deltoid, and in two of the cases there was undoubtedly injury to the fifth cervical root. A point of interest is as to whether most of these cases do not owe their chronicity in great part to some injury of the upper part of the brachial plexus. In all these cases treatment had to be prolonged, lasting from three to six months. In two cases the results were good, in two fair; in one of the latter, although the deltoid was atrophic, the patient could abduct the arm well above the head, apparently by a combination of the biceps and pectoralis major.

Fractures of the surgical neck of the humerus.—Of 14 cases, seven were good, five fair, and one bad, and one was not traced; 60 per cent. of the patients were over 50 years of age. The bad result was associated with and largely due to an injury of the brachial plexus. The length of treatment was from seven to ten weeks.

Fractures of the anatomical neck.—Three cases, the patients all being well over 60 years of age. Two did very well and one was a fair result. The length of treatment was about the same as in fracture of the surgical neck.

Fracture of the great tuberosity.—One case occurred with weakness of the deltoid, possibly due to injury of the fifth cervical root; this case did well after 20 weeks' treatment.

In all these fractures of the upper end of the humerus there is a tendency to keep the shoulder fixed too long before massage and movements are commenced. Fractures in this position unite very readily and in 14 days a good deal of movement can be indulged in without risk of displacement. Such cases should be massaged from the earliest possible time and movement can probably be started in from 7 to 10 days. Keeping the shoulder fixed for a month is far too long. As in the other injuries of the shoulder, weakness of the deltoid is the main and most lasting trouble here.

Fractured clavicle.—Two cases of trouble after fractured clavicle attended, and required from six and eight months respectively before they were in a satisfactory condition. It may not be out of place to give a word of warning about the putting up of fractured clavicles. Too much attention is apt to be paid to getting a very good position of the fragments, with consequent tight application of strapping in the manner of Sayre, which is apt in patients of middle age and upwards to be followed by certain unfortunate results. I will mention three: 1. The hand is kept extended and strapped to the chest and after three weeks resembles a whale's flipper, a condition likely in the elderly to persist indefinitely. 2. Pressure of strapping on the arm affects the nerve- and blood-supply of the forearm, causing œdema, a certain amount of nerve palsy, and, I suspect, a varying slight degree of ischæmic degeneration of muscle, which adds to the rigidity of the hand. 3. Fixing the shoulder often results in prolonged stiffness. A concurrence of these conditions causes the limb to be of neither use nor beauty, and very likely the fragments of the clavicle are still displaced. The digits of the middle-aged should never be fixed when fixation can possibly be avoided. The shoulder in such people should be treated with respect and not restricted for long, but the hand even more so, for a stiff and flipper-like hand is a worse affliction than a stiff shoulder; in putting up a fractured clavicle in the middle-aged, the hand should be left out of the strapping. If it be deemed necessary to get a very good position of the fragments of the clavicle it will be better to cut down and wire; this method is, however, not likely to come much into vogue, for a clavicle which is an abomination to the æsthetic eye of the surgeon may yet be of the greatest service to its owner, provided that there is a useful hand at the end of the limb.

Conclusion.

On the whole, the results quoted are not bad, though certainly admitting of considerable improvement. If modern treatment be carried out, the outlook of fractures involving joints is less gloomy than some would have us believe. Unless cases are made to come and show themselves after treatment has ceased, one gets a false perspective of the results; one sees cases coming up week after week and month after month with very little signs of improvement. Two or three cases of this nature certainly give one the impression that no case, say, of Pott's fracture, ever did or ever will recover the use of his leg, and one is surprised later to find how many of the cases are quite respectable working results. Cases doing well slip away, their treatment is shorter, and they leave less impression on the mind than do those stiff, squab, œdematous, and utterly dreadful-looking ankles which are our constant visitors. With patience and perseverance, however, these latter assume something of their normal proportions and are, at any rate in the majority of cases, exceeding useful and serviceable means of progression. I have found to my surprise the after-result much better than I expected. From the cases discussed the value of early movement and massage will be readily seen in improving and accelerating recovery of function. Massage and movement alone are not suitable for all fractures, though serviceable for a great many more than is commonly supposed. Certain fractures—e.g., Pott's fracture—must have some retentive apparatus to avoid displacement, not to produce immobility of the limb.

In the treatment of fractures and allied injuries, as in a very large number of medical and surgical cases, two great and apparently opposing principles are used—viz., rest and exercise. In the past too much stress has been laid on the importance of rest in cases of injury, and it is largely to the French school that the credit is due of accentuating the importance of the other great factors in treatment, movement and exercise. For movement leads to power of function, and it is by a proper appreciation of the importance of each of these principles and by correlating their application in practice that we shall obtain at length such perfection as is possible in this world of mortal men.

Finsbury-square, E.C.

THE LONDON HOSPITAL MEDICAL COLLEGE.—On July 19th the prizes and certificates were distributed to the successful candidates of the Medical College of the London Hospital. The distribution was made by the Earl of Derby, the treasurer of the hospital. The list of the scholarships and prizes awarded included the following:—Price entrance science scholarship: Mr. D. E. Morley. Price entrance scholarship in anatomy and physiology: Mr. J. Scott Wilson. Entrance science scholarships: Mr. J. R. K. Thompson and Mr. A. R. Elliott. Buxton scholarships in arts: Mr. G. Bluett and Mr. A. P. Ford. Epsom scholarship for students of Epsom College: Mr. K. Biggs. Scholarship in clinical surgery: Mr. A. H. Penistan. Scholarship in clinical medicine: Mr. W. J. O'Donovan. Scholarship in clinical obstetrics: Mr. G. Gushue-Taylor. Duckworth Nelson prize: Mr. A. H. Penistan. Senior Letheby prize in organic chemistry: Mr. J. R. K. Thompson. Senior Letheby prize in inorganic chemistry: Mr. E. Morley and Mr. D. E. Morley. Junior Letheby prize in chemistry and physics: Mr. T. H. Thomas. Sutton scholarship: Mr. A. H. Penistan. Anatomy and physiology scholarship: Mr. T. D. Williams. Anatomy and biology scholarship: Mr. T. D. Williams. Minor surgery prizes: Mr. H. B. Walker, Mr. F. Sanders, Mr. B. R. Khanna, Mr. G. M. Heiron, Mr. W. Morris, and Mr. D. Scott. Practical anatomy prizes: Mr. R. G. Brown, Mr. J. V. O. Andrew, and Mr. N. L. Treston. Anderson prizes: Mr. J. S. Jobson, Mr. F Sanders, Mr. H. R. G. Vander Boken, Mr. J. G. Reidy, Mr D. Scott, and Mr. R. E. Quinton. Douro Hoare prize: Mr. H. W. Parrott. Wynne Baxter prize: Mr. E. B. Morley.

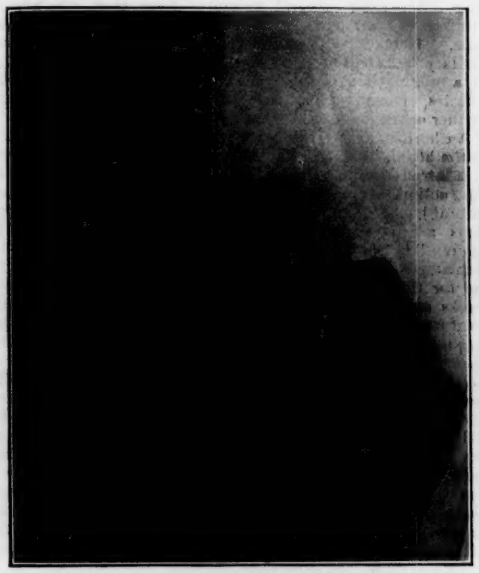
"PAINFUL HEELS."

BY E. REGINALD MORTON, M.D. TOR., F.R.C.S. EDIN.,
MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT, LONDON HOSPITAL; LECTURER ON RADIOLOGY, WEST LONDON POST-GRADUATE COLLEGE.

THE annotation entitled "Painful Heels" in THE LANCET of June 12th (p. 1704) has encouraged me to record the following case, which throws some light on a subject which has, so far, been very little written about. The lady in question was brought to me by Dr. H. Beckett-Overy, to whom I am obliged for permission to publish the following details:—

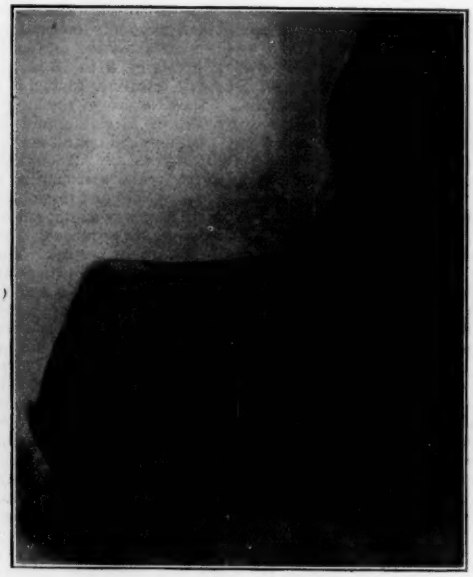
The patient, aged 60 years, was first seen on April 26th last with a history of pain and tenderness in the right foot and heel, which had got progressively worse during the past four months. At a later date the left foot and heel began to give trouble in the same way. Latterly the pain in the feet had been severe and the tenderness on pressure in each heel had steadily increased. Walking was attended by extreme discomfort, so that she had been unable of late to take any exercise. There was a distinct gouty tendency, but nothing else of a constitutional character. The patient was sent to me in the hope that some form of ionic medication would be helpful, as she was anxious to avoid an operation if at all possible.

FIG. 1.



From a skiagram of the right foot.

FIG. 2.



From a skiagram of the left foot.

The case being an unusual one and the diagnosis not at all clear, I suggested that I should make a radiograph of each heel, which I did with the result as shown herewith. (See Figs. 1 and 2.) It will be seen how the development of the thorn-like process, projecting forwards, is more complete on the right side than on the left, and thus exactly conforms to the clinical history. There will also be noticed the thickening of the tubercle of the os calcis, an extra layer of bone being deposited thereon.

Steinhardt considers that gonorrhœa is one of the most common causes, and that males are more often affected than females. Only a few days ago I was informed by a New York surgeon that at least one of his colleagues looked upon these spicules of bone growing from the os calcis as pathognomonic of gonorrhœal infection. Steinhardt, however, admits the possibility at least of the condition being due to gout, rheumatism, and traumatism. The present case was clearly not gonorrhœal.

Ionisation, first with salicylic and later with iodine ions, was tried for a brief period, but, as might have been expected, the result was negative.

I understand that on May 29th the spicules were removed by operation, and although the amount of benefit obtained is still very slight there are signs of general improvement. The patient is still unable to walk.

Upper Wimpole-street, W.

PURPURA HÆMORRHAGICA, WITH ABDOMINAL CRISES DUE TO INTESTINAL EFFUSION.

BY G. PERCIVAL MILLS, M.B., B.S. LOND., F.R.C.S. ENG.,
LATE RESIDENT SURGICAL OFFICER, SALFORD ROYAL HOSPITAL.

ON March 21st, 1909, the patient, aged 16 years, was sent to the Salford Royal Hospital by his medical attendant, and complained of severe abdominal pain. The family history was excellent; no tuberculosis or rheumatism. The patient had suffered occasionally from "growing pains." With this exception he had had no previous illnesses. He had never suffered from rheumatism or sore-throat. Ten days previously he had been seized while at work with pain in the lower part of the abdomen. The onset was gradual and at first the pain was only severe when he attempted to lift anything. He vomited once and the pain got so severe that he had to return home and go to bed. The pain was not relieved by rest but came on in frequent paroxysms which were severe enough to necessitate the administration of morphia. He localised the site of the pain vaguely to the lower half of the abdomen and described the attacks as resembling colic. He remained in bed on a fluid diet for ten days, during which no improvement took place.

On admission the patient was seen to be a fairly well-built boy. The expression was pinched and anxious, the tongue dry and brown, and both it and the lips and teeth were covered with sordes. The abdomen was soft and moved freely on respiration. There was slight tenderness on deep palpation in the right iliac fossa, but otherwise examination revealed nothing abnormal. Per rectum nothing abnormal was felt. The temperature was 98·4° F., and the pulse was 80

and of fair volume and force. An aperient was given and the bowels were freely opened three times. The stools were fluid and of normal colour, but contained a trace of blood intimately mixed and a little mucus. Examination of the urine showed nothing abnormal. The patient continued to have attacks of the most violent abdominal pain, rolling about the bed in agony, and his general appearance was one of extreme illness. A provisional diagnosis of chronic intussusception was made.

Operation.—With the consent of Mr. Andrew Boutflower, who kindly allowed me to treat the case, I opened the abdomen through the right rectus muscle on March 23rd. There was a little clear fluid in the peritoneal cavity, and the parietal peritoneum was slightly hyperæmic. Along the whole length of the small intestine there were numerous patches of hyperæmia and œdema. The lowest was a few inches above the ileo-cæcal valve; it extended all round the intestine and was about two inches in length. The intestinal wall was slightly thickened and markedly œdematous and hyperæmic, but there was no extravasation of blood. There were similar patches at intervals of 9 to 12 inches along the whole length of the small intestine, giving it a curiously striped appearance. They exactly resembled one of the cases described by Dr. G. A. Sutherland in THE LANCET of June 26th, except that they did not all extend round the whole circumference of the intestine. About two feet from the duodenum there was a circular scar causing a very slight constriction. It was obviously old and resembled the scar of an old intussusception. There was no deposit of lymph or any other sign of inflammation, old or recent. The vermiform appendix and large intestine were normal. The abdomen was closed in the usual way. On the following day (March 24th) there was only one slight attack of pain and on the next day there was no pain. On the 26th there appeared a few typical purpuric spots on the left wrist. They were grouped together on an area of about one and a half inches by one inch on the ulnar side, and there were no spots anywhere else on the body. Later in the day, however, two small spots appeared on the back of the left hand. On the 27th there were more spots on the back of the left forearm and hand; there was again slight abdominal pain, and blood was present in the stools to the same extent as before. On the 29th spots appeared on both elbows and ankles; the temperature remained subnormal throughout except during the formation of a stitch abscess. On the 30th there was a thick cloud of albumin in the urine; no blood or casts. The total quantity was 36 ounces; general condition better. On April 11th there was profuse hæmaturia, some free fluid in the peritoneum, while the feet and legs were œdematous. The patient seemed much worse. The œdema persisted until May 7th, and the peritoneal fluid until June 20th. At the present time (July 5th) the patient is convalescent; there is no abdominal pain and the fæces are free from blood. There is still, however, a trace of blood in the urine.

The case is of particular interest in view of the theory of the causation of intussusception put forward by Dr. Sutherland in the case already mentioned. Dr. Sutherland quoted a number of cases in which this condition of intestinal effusion was found during a laparotomy for supposed intussusception, and showed that it had been not unnaturally regarded as the result of an intussusception spontaneously reduced. He brought evidence to show, however, that (*a*) all the symptoms of intussusception may be caused by intestinal effusions, and (*b*) that intestinal effusion itself is a cause of intussusception. My case presents a certain amount of evidence in favour of both these views. Before operation it was regarded as a chronic intussusception, and had only one patch of hyperæmia been found a diagnosis of spontaneous reduction would probably have been made. He would be a bold man, however, who would assume the presence of 12 to 15 intussusceptions, all of which had undergone spontaneous reduction, to account for the condition found. Consequently it must be admitted that intussusception may be closely simulated by multiple patches of intestinal effusion, and, if so, why not by a single patch?

The other point of interest centres in the old scar found; its appearance strongly suggested an old intussusception, and the occurrence of intussusception and of intestinal effusions in the same patient is, to say the least of it, suggestive.

NOTE ON THE TREATMENT BY RADIUM OF LYMPHATIC OBSTRUCTION (CERVICAL, SUBMAXILLARY, AND AXILLARY) IN A PATIENT SUFFERING FROM FILARIA NOCTURNA.

BY A. A. WARDEN, M.D. GLASG. & PARIS,
VISITING PHYSICIAN TO THE HERTFORD BRITISH HOSPITAL, PARIS.
With Comments by Dr. H. DOMINICI *and* Sir R. HAVELOCK CHARLES, M.D., *Physician in Ordinary to H.R.H. the Prince of Wales.*

THE remarkable and rapid success that attended the use of radium and the fact that this is perhaps the first occasion that other than surgical measures have been effective in filariasis encourage us to place on record some details of the case. It may be premised that operative removal of the axillary mass had been attempted and abandoned on account of a prolonged syncope under chloroform, and Sir Havelock Charles, consulted by the patient in London, negatived further operative interference.

Authorities are agreed that "no drug destroys the embryos in the blood,"[1] or indeed "has any effect on the worm once it is introduced into the body. For the effects of lymphatic obstruction, elephantiasis, &c., something can be done by careful bandaging and massage, but as a rule surgical operations are necessary if the removal of the deformity is desired."[2] Sir Havelock Charles felt justified, therefore, in recommending a trial of radium and the patient was sent to me for that purpose. During treatment, which lasted six weeks and which in no way interfered with the patient's comfort during the day, his general health improved and he frequently remarked on the pleasantness of Paris as a health resort in spring!

Past history.—The patient, aged 45 years, in a stay of 22 years in India had spent nine in the temperate climate of the hills in the hot weather, the rest in Bengal proper. In 1885 and 1886 he had a three days' attack of high fever in the Nadia district. In 1895 he had a mild attack of enteric fever, and in July, 1906, he caught 24-hours' fever "by sleeping in the jungle." In June–July, 1907, he had a six weeks' attack of "hill-diarrhœa," contracted at a hill station, Shillong, where such illness was common. The following year at Darjeeling he had a similar illness, lasting about the same length of time.

Present illness.—Early in August, 1908, that is to say, when convalescent from his second attack of hill-diarrhœa, he first noticed a swelling above the left clavicle. It caused no pain and was noticed accidentally by the patient. In October a cough developed which the patient could not shake off, and during the next few months his general health failed considerably, although he continued his arduous administrative duties. Early in January, 1909, a swelling was noticed under the left arm, and the civil surgeon who was consulted at the time recommended his going to Calcutta for operation. There Lieutenant-Colonel H. W. Pilgrim, I.M.S., of the Calcutta General Hospital, found filaria in the specimens of blood taken at night, and in consultation with Major R. Bird, I.M.S., professor of surgery at the Medical College, Calcutta, it was decided to remove the axillary mass. A prolonged syncope under chloroform prevented the completion of the operation, but part of the mass was removed and examined by Major L. Rogers, I.M.S., bacteriologist to the Government. On the patient's return to England early in February he consulted Sir Havelock Charles, who also found filaria nocturna embryos in the blood, and expressed the opinion that the enlargement of the axillary and cervical glands was due to their presence and that further surgical interference was inadvisable. He recommended a trial of radium and the patient arrived in Paris on April 7th and had his first treatment on the 10th.

Present condition.—The patient is some four pounds under his normal weight and still suffers from general malaise, especially in the evening, when the temperature, taken carefully four times daily, shows a regular rise of 1½° F. Physical examination detects no abnormality in the heart, liver,

[1] Osler: Principles and Practice of Medicine, fourth edition, p. 362.
[2] C. W. Daniels, Medical Superintendent of the London School of Tropical Medicine, in Hutchison and Collier's Index of Treatment.

abdomen, lungs, or urine. Under the skin in various parts of the body—e.g., the forearm, abdomen, and back—are small elastic tumours apparently fibro-lipomatous in nature. The patient had noticed some of them as long as 14 years ago.

The filarial lesions.—These were in four groups: (1) Left axillary; (2) left cervical; (3) submental; and (4) right submaxillary. 1. In the left axilla was a scar 2 inches in length, at the upper part of which a mass could be felt, deep in the axilla, measuring 4 inches by 2 inches and stretching transversely across the line of cicatrix. 2. Above the left clavicle was an irregular mass of enlarged glands, 4 or 5 inches in diameter, reaching posteriorly to the border of the trapezius and occupying both the anterior and posterior triangles of the neck. 3. Under the chin, about 1½ inches to each side of the middle line, could be felt a firm, elongated, fleshy mass, less distinctly glandular in outline and consistence. 4. Under the right lower maxilla one gland, of the size of a cherry, could be felt. None of these tumours were painful and the skin over them was unaltered.

Radium treatment.—The details of the radium treatment are given in Dr. Dominici's note. It entailed no discomfort or pain to the patient, and under its influence the several glandular masses rapidly diminished in size. By the end of May a small tumour measuring 1 inch by ½ inch could be detected in the axilla at the upper extremity of the scar, and of the cervical adenitis one small gland could alone be felt.

As it had been found that the tumours continued to diminish in size when treatment was suspended for a period of ten days, and as the patient was anxious to return to England, it was agreed to postpone further action till later, if necessary. The patient's general health had improved, his temperature had been normal for over a month, and his appearance was that of perfect health.

NOTE BY DR. DOMINICI.

Le malade fut soigné d'après la méthode radiumthérapique dont j'ai, le premier, exposé les principes et démontré les effets dans une série de communications qui remontent au Congrès de Médecine de Paris, 1907.[3] Cette méthode que j'ai appelée "Méthode du Rayonnement ultrapénétrant," consiste à filtrer le rayonnement du radium au moyen d'écrans de métaux denses (plomb, or ou argent) de 4/10 de mm. à plusieurs mm. d'épaisseur. Utilisés à doses thérapeutiques et avec certaines précautions les rayons qui ont franchi ces écrans métalliques restent capables de déterminer la régression soit de certaines tumeurs, soit de certains processus inflammatoires dont les éléments sont vraisemblablement beaucoup plus sensibles aux rayons filtrés que ceux des tissus normaux.

Les adénopathies furent soumises au rayonnement des appareils suivants: 1° Un appareil à sel collé, rond, supportant 5 cg. de sulfate de radium pur; 2° Un appareil quadrilatère de 9 cm.q. contenant 2 cg. 1/2 de sulfate de radium pur; 3° Un appareil constitué par deux toiles quadrilatères de 4 centimètres carrés, supportant chacune 1 cg. de sulfate de radium pur.

Ces appareils furent montés suivant ma méthode, c'est-à-dire en superposant à chacun d'eux: 1° Un écran de plomb dont l'épaisseur fut, en la circonstance, de 2 mm. 2° Un écran de papier de 3 mm. d'épaisseur. Le tout était engainé de caoutchouc. Les appareils ainsi montés fournissaient, à travers leurs écrans, un rayonnement essentiellement constitué par des γ et des β ultrapénétrants. L'intensité de ce rayonnement était: Pour l'appareil rond, contenant 5 cg. de sulfate de radium pur, 10,000. Pour l'appareil carré contenant 2 cg. 1/2 de sulfate de radium pur, 6000. Pour l'appareil constitué par les deux toiles à 1 cg. de sulfate de radium pur, 7000. Ces appareils furent situés à peu près indistinctement sur les différentes régions malades, exception faite en ce qui concerne celui formé par les deux toiles et qui fut destiné à la partie la plus élevée du creux axillaire. Grâce à la souplesse relative des toiles et du plomb, on donna à l'appareil une forme concave-convexe de manière à l'adapter, par sa convexité, à la concavité de l'aisselle.

Les applications furent réparties de la façon suivante: Adénopathies sous-maxillaires gauches, 4 applications à gauche, 4 applications à droite; Adénopathies sous-maxillaires droites, 2 applications; Adénopathies de la région cervicale gauche, 6 applications; Adénopathies sus-claviculaires, 5 applications; Creux axillaire, 13 applications, dont 6 à la partie tout à fait supérieure. La durée de chaque application fut de 12 à 14 heures. Afin d'incommoder le moins possible le malade, ces applications eurent lieu généralement pendant la nuit, les appareils restant maintenus au moyen de diachylum. Afin de diminuer le nombre total des séances, on pratiquait les applications d'une façon simultanée dans les différentes zones traitées. Les adénopathies sous-maxillaires, sous-mentionnières, cervicales, et sus-claviculaires disparurent complètement sous l'influence du rayonnement.

Le bloc massif constitué par les adénopathies de la région de l'aisselle se résorba peu à peu, en laissant comme reliquat deux ganglions indurés qui persistent encore à la partie la plus élevée du creux de l'aisselle. Si la tuméfaction de ces ganglions persistait, je conseillerais, pour la réduire, d'introduire pendant 24 heures dans l'épaisseur du tissu conjonctif du creux de l'aisselle un des appareils qui ont été construits suivant mes indications et qui sont constitués par une ampoule de verre cylindrique contenant 5 centigrammes de bromure de radium pur, placée dans un étui d'argent ou d'or à paroi de 5/10 de mm. d'épaisseur. Quoi qu'il en soit, les résultats obtenus sont très intéressants pour plusieurs raisons: les adénopathies échappaient à toute intervention chirurgicale, comme il ressort de l'observation du Dr. Warden. Ces manifestations inflammatoires étaient à la fois massives, profondes, étendues et disséminées. Elles ressortaient d'un agent très spécial, puisque celui-ci était un nématode du type des filaires. Or, si j'ai déterminé l'atténuation ou la disparition, au moyen de la radiumthérapie, d'arthrites blennorrhagiques graves, d'inflammations paramétriales, dont s'entourent les cancers de l'utérus, de syphilomes chroniques, étendus et rebelles au traitement spécifique, des éléphantiasis d'origine streptococique, je n'avais jamais expérimenté l'action du rayonnement du radium contre les réactions inflammatoires provoquées par un parasite du type des vers.

En l'espèce, le rayonnement a paru agir non seulement contre les réactions inflammatoires provoquées dans les tissus par la présence des parasites, mais contre ces parasites eux-mêmes, à en juger par la cessation de la fièvre. Si la disparition de l'état fébrile est en relation avec la destruction des nématodes, il y a lieu d'espérer que le champ d'action du radium s'étendra à d'autres parasites de la classe des vers, et qu'il sera possible un jour de traiter par la radium-thérapie combinée à la chirurgie des affections telles que le kyste hydatique, par exemple.

NOTE BY SIR HAVELOCK CHARLES.

The progress of this case (June 24th, 1909) has been highly satisfactory. When first seen by me nothing could be done surgically, and medicine gave no hope. The patient's condition is well described by Dr. Warden, to whom I sent him. I was able in Paris to note the favourable progress made whilst under treatment. I should desire to draw the attention of those who have to do with such affections to the beneficent influence of radium in this case. It promises much, and I think there is a great field before it in filarial trouble. Were I again returning to the tropics I should certainly equip myself with a working quantity of this element for use there. Since my lot is differently cast I suggest to others the trial in favourable cases of the radium treatment.

[3] H. Dominici: De l'utilisation des rayons du radium en pathologie. Congrès de Médecine interne, Paris, Octobre, 1907. H. Dominici: Du radium et de ses applications thérapeutiques, Bulletin Général de Thérapeutique, No. 8 du 29 février, 1908. Gaucher et Dominici: Traitement des épithéliomas par les rayons du radium, Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris, séance du 3 avril, 1908. Dominici and Barcat: L'action thérapeutique du radium sur les néoplasies, Compte rendu des travaux présentés au Congrès de Clermont Ferrand en 1908, Rapports I., p. 12. Gaucher: Traitement de l'épithélioma de la peau et des muqueuses dermo-papillaires par les applications du radium.

A SURREY CONVALESCENT HOME.—Sir Trevor Lawrence, Bart., presided over the gatherings in connexion with the Surrey Convalescent Home for Men at Seaford, Sussex, held on Founder's Day, July 12th. The Home was built and endowed by the late Mr. W. Alexander, and was opened in 1891 by the late Duke of Cambridge. The Duke of Teck is the President. Since its foundation no fewer than 10,133 patients have passed through the Home, 613 during the year just ended. The financial position of the Home has been well maintained, but extraordinary expenditure during the past year has resulted in a deficit of £87.

DISTRICT MEDICAL OFFICERS AND THE REPORT OF THE ROYAL COMMISSION ON THE POOR-LAWS.[1]

BY MAJOR GREENWOOD, M.D. BRUX., LL.B. LOND., D.P.H.,

HONORARY SECRETARY TO THE POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

AT the Hull meeting last year I had the honour of reading a paper on the Grievances of District Medical Officers. I referred to the investigation of the Royal Commission then sitting, and stated that most of our grievances had been represented to that body, and I expressed a confident opinion that when its work was completed we should not be forgotten and might hope for an amelioration of many evils that had for long years interfered with the efficiency of our service and the well-being of the State poor. I fear that my confidence in the work of this Commission, in the light of what has happened, was somewhat misplaced, and my hopes for an improvement of our present position more or less premature. We cannot complain that our work in the past has not been recognised, as both in the Majority and Minority Reports there is a fairly ample recognition of our services. On p. 278 (161) we read:—

> Looking to our evidence we are satisfied that the great majority of medical officers efficiently and punctually perform the duties entrusted to them, and that, as we shall show hereafter, many bestow on the poorer classes a considerable amount of attention for which they receive no recompense, &c.

That our complaints have been more than justified is likewise confessed on pp. 268 and 269. But when we look for practical recognition of our long and faithful service what do we find? The proposal of the majority of the Commission is to abolish as soon as possible our office. As members of the class doomed to extinction we can hardly be expected to be delighted with this prospect. But, none the less, we are ready to admit that our service was created for certain public ends, and that if these can be attained better in other ways we have only to submit with the best grace we can.

I think, however, we have a right to express our opinion on what it is proposed to substitute for our services, and to examine and criticise the reasons given by the Commission for so drastic a change. Our present Poor-law system, like the British Constitution, was never created in any cut-and-dried fashion. Both have grown with the needs of the country. Theoretically, no doubt, both might be abolished and re-created with advantage. But in vital matters of this kind it has never been the practice in this country to abolish and root out old institutions in favour of new ideas that may arise from time to time. It has rather been customary to make old institutions fit into new needs and serve for new requirements as they arise by making suitable amendments. Such a method may be slow, but there is an element of sureness and stability about it which is not to be despised, and it is well recognised in the history of civilisation that the most revolutionary changes are not always followed by a maximum of advantage.

In my opinion there is too much of the spirit of destruction in the report before us; too much desire manifested to overthrow and build anew on entirely fresh foundations, regardless of the consequences to other important public interests. For two centuries and more men of eminence and ability have laboured in their generation to construct the present system, and its history has been one of continuous, if slow, advancement. Our Poor-law system a century ago was far worse than now, and if we regard the Poor-law medical service of to-day and compare it with what it was according to the description of writers of even a generation ago, we cannot help being struck by the advancement it has made even in that short period.

Some of the foregoing remarks, in my opinion, might apply to the report as a whole, but as it is only my business to deal with Poor-law medical relief, and more especially with that portion which comes within the scope of the district medical officer, I shall in the rest of my paper restrict myself to that subject only. In the first place, why are district medical officers to be abolished? On pp. 278 and 279 (161) the only qualification to the expressed efficiency of the present district medical officers in the eyes of the Commissioners would seem to be because of the evidence of certain witnesses, that some of the State poor are unwilling to employ them and for the following reasons: (1) That the attention they get from the district medical officer is not satisfactory, and that they frequently call in another doctor; (2) that they will often pay a fee of sixpence or a shilling and travel considerable distances rather than employ the district medical officer; and (3) that it is a great hardship not to be able to choose their own doctor. Surely such reasoning is not conclusive! Does it never happen in ordinary medical practice that a patient becomes dissatisfied with the doctor he himself has chosen and calls in another? Where is there any evidence to show that the change of doctors is more common in Poor-law than in other medical practice? Even if it is admitted that there is more likelihood of such a change where the patient has not chosen his doctor, I have no hesitation in saying that a much more frequent change of doctors takes place in the case of contract practice, including in that category Post-Office and other public services, than in Poor-law practice, and it is with contract practice that that of the Poor-law ought to be compared. Yet no one has proposed to abolish contract practice.

With regard to a preference shown by some of the State poor to pay for their medical attendance, this need not detract anything from the efficiency of the district medical officer. Surely, it is right that poor persons should pay, where they can, for their medical wants, and that they should be encouraged to. The suggestion in the Report is that the poor do so because the district medical officer neglects them, but this is not proved—the finding of the Commissioners is all the other way. I consider the calling in of another doctor more often the result of a feeling of independence on the part of the patient, an independence that should be fostered and not discouraged, as I fear may easily be done by some of the proposals of the Commissioners. There is, perhaps, one other consideration that ought to be mentioned, and that a sentimental one but deeply rooted in human nature—viz., the idea that an article is worth just what you pay for it, and where nothing is paid its value is not usually counted high. The expression "pay doctor" not infrequently found on the lips of a poor person no doubt has reference to that idea, and I have heard it applied as a distinction between a private and hospital doctor as well as a Poor-law doctor. The same idea is exemplified on p. 870 of the Minority Report, where it is stated that evidence is shown that certain members of clubs in serious illnesses discard their club doctor and call in a private practitioner. No doubt it is a hardship not to be able to choose your medical relief, but not greater than having the choice of your other relief restricted. The real hardship is being in a a position to require either. Abundant reasons are given by the Commissioners themselves in the Minority Report on p. 874, why such objections cannot be sustained. What is urged there against the principle of permitting the State poor their choice of a doctor seems to me trenchant enough and quite conclusive.

There is yet another complaint against the work of the district medical officers generally which must not be overlooked, and it has reference to the kind of treatment they are said to give to the poor. In various parts of the Report it is averred they give no advice to their patients to prevent future illness, that all their efforts are directed to treat the immediate ailments, that they do not regard their sanitary surroundings, and consider their duty ended by visiting and prescribing a medicine. Perhaps this charge is best seen in the Minority Report, p. 851:—

> In too many Unions it is clear outdoor medical relief begins and ends with a bottle of medicine, and in the twentieth century we have ceased to believe in the bottle of medicine.

True, most worthy Commissioners, but are you quite sure that even a considerable portion of the mass of the population throughout the country, for whose welfare you were appointed, hold your views with regard to the "bottle of medicine"? Such criticism, if true, condemns not only Poor-law medical practice but at least nine-tenths of the medical practice of the country. Poor-law medical officers are, in fact, criticised adversely for treating their State patients in the same way that private patients are treated by most of the doctors of the community.

Some years ago I attended a public meeting and heard a

[1] A paper read at the annual meeting of the Poor-law Medical Officers' Association of England and Wales held at the Guildhall, London, on July 6th, 1909.

well-known hospital physician condemn the exorbitant amount of physic ordered for the out-patients of a large London hospital. The Hon. Sydney Holland was also present and asked, somewhat angrily, why physicians ordered medicines they appeared to think unnecessary. His question I do not think was satisfactorily answered, but I doubt if any experienced medical practitioner was ignorant of the reason—a very sufficient one in my opinion—that the public would have the medicine. The medical practitioner is a servant, if not the slave, of the public, and until his masters are better grounded in the facts of physiology and hygiene, advice given by a doctor, unaccompanied by the inevitable physic, would in many cases only result in the ruin of the doctor. Poor-law medical officers least of all can pose as medical reformers, and if they were to treat their State patients differently from their other patients a storm of indignation would arise from even a twentieth century public.

There is, I think, a great deal of misapprehension in the minds of the Commissioners in their criticism of the treatment meted out to their State patients by district medical officers, and in some material points they fail to realise their position. They must be aware that in all medical practice outside the Poor-law, the notions and prejudices of the patients have to be seriously considered by the doctor. Do they think that in the case of pauper patients this is not the case? No district medical officer could properly attend to his district if he were to ride roughshod over all the erroneous and ignorant ideas of his poor patients, telling them dogmatically what they must do and what they must not do, and sternly refusing to compromise in anything. If the patient refuses to follow the district medical officer's advice the latter must still attend him. In no other class of medical practice is the position of the doctor more difficult. Under the present Poor-law system—and so I believe it must be under any Poor-law system—it is impossible for the district medical officer to get rid of his responsibility. Though the patient insult him and will in no wise follow his advice, if the case is serious he dare not leave it, but must continue in attendance, trying by tact and judgment to do the best he can. If every destitute person who chose to set up his opinion against that of the doctor could be haled off to a Poor-law institution, as to a prison, some of this difficulty might disappear, but I do not think the time has yet come when any Parliament would sanction such a procedure.

On p. 269 of the Majority Report we read:—

> It is alleged that the appointment of district medical officer is valuable to the holder apart altogether from the monetary emoluments attached to the post.

This at times must be true, for otherwise, looking at some of the salaries paid, no one could be found to accept such posts. The statement, no doubt, has reference to the introduction to practice that they afford to the young doctor. But if he is going to build his practice on such an appointment he must be specially attentive to his pauper patients and must humour their whims. He must not be too explicit in pointing out their dirty habits, or urge too vehemently sanitary considerations, often as unintelligible to them as objectionable. If he does, he will reap no advantage from his Poor-law office, but rather tend to lose. For, far from recommending, his pauper patients will warn others against him and where they can will themselves call in a "pay doctor." This action on their part will very likely be misconstrued by local philanthropists and put down to neglect on the part of the parish doctor.

On pp. 871, 873, and 874 the Minority Commissioners eloquently denounce certain evils likely to arise where the pauper is permitted to choose his doctor. The district medical officer desirous of gaining practice through the good offices of his pauper patients could not afford to regard these evils quite in the same light as the Commissioners. No doubt the district medical officer who is not seeking general practice through his Poor-law office is in a more independent position than a private practitioner, but it is a great mistake to imagine that even he can afford to follow the lines most favoured by the Commissioners, and they must not forget that if the pauper patient does more frequently change his doctor it may be because the district medical officer does occasionally rise above the mere "bottle of medicine" treatment. It is untrue to say that the district medical officer does not take cognisance of the sanitary surroundings of the patient and is careless as to future illness. It is often from the district medical officer that the medical officer of health gets the first intimation of dangerous sanitary defects, and if his first duty is to treat the immediate illness of his patient he is seldom chary of pointing out bad habits and advising their abandonment. But in too many cases it is obvious to him that his advice under the circumstances is practically useless. These are the charges, if charges they can be called, against the efficiency of the district medical officer, that in the opinion of the Majority of the Commissioners warrant the abolition of his office and the transference of his duties to any practitioner willing to undertake Poor-law work.

But as there is a divided opinion it will be necessary to examine the views both of the Majority and Minority. The Majority propose to treat all Poor-law patients in provident institutions, the State paying the contributions of the Poor-law patients, who are to be allowed to choose their own doctors. As all the doctors in the district may, if they like, attach themselves to these institutions, every practitioner can become a Poor-law medical officer. Such a scheme, in my opinion, is as impracticable as it is undesirable. It clashes at once and is inconsistent with other recommendations of the same Commissioners, who are all agreed as to the necessity of an increase of State inspection of Poor-law medical work. Where nearly all medical practitioners are Poor-law medical officers, how could such inspection be carried out? Again, the expense would be prohibitive. Let it be clearly understood from the outset that no such scale of fees as is paid by the contributories to provident dispensaries would be acceptable to medical practitioners undertaking Poor-law work. The rate would have to be much higher, as much more work would be required. All the criticism directed against the work of the present district medical officers by the Commissioners tends to show that medical treatment of the up-to-date provident dispensary would not be sufficient for the State contributories. No one who has any experience of provident dispensary work could truly assert that the treatment there was superior to that given at the Poor-law dispensaries, or that the "bottle of medicine" figured less extensively. Then there would be the little official extras which would have to be paid for—I refer to the keeping of special registers, official reports, &c., no mean item in the work of the district medical officer. It is easy to see that, whatever mode of payment is decided upon, the new system would not be cheaper than the old.

Then as to the utility of the change, is it desirable? Pauperism is a social disease of a very contagious character. For that reason, according to modern doctrines, it should be isolated. If paupers are to be thrust upon provident institutions it must be greatly to the danger of the latter. An infection will have been introduced into a medium where it would be likely to spread like wildfire, and a very potent vaccine indeed would have to be found to inoculate a large portion of the poorer dispensary members to prevent them from seeking to join the ranks of their fellow State-paid contributories.

Then, speaking for the metropolis, I think I am correct in saying, that provident dispensaries have never been a success. The supporters of these institutions have found it more difficult to organise them successfully here than in other parts of the country. An endeavour to graft Poor-law relief upon them would, in my opinion, add considerably to this difficulty. At the present time there are practically no provident dispensaries in the metropolitan area that could be used for this purpose, and if a special attempt were made to create them they would not be supported by the classes for whom such institutions are properly intended, but would result in another series of Poor-law dispensaries with no advantages over the present, and much more expensive. I cordially agree with the Minority Report where it expresses the opinion that the carrying out of a scheme of this kind would bring us "round again to a State medical service, but this time to one of gigantic proportions."

Another criticism, too, might be properly directed against the scheme of the Majority. On p. 290 (200) we read:—

> As regards a gratuitous medical service for the cure of disease, I recognise the attraction of the proposal, but we are unhesitating! opposed to it.

Yet what does it all directly tend to? Let it be granted that in accordance with the recommendations of the Majority we have a large number of dispensary Poor-law doctors,

all competing one against another, all interested in getting as many Poor-law patients as possible. It must further be noted that the Poor-law doctor will then be doctor and relieving officer combined, so that he can accept as a Poor-law patient any applicant he chooses. He will be paid at least as much for Poor-law as for other patients, so that it will not pay the doctor to be too critical in his selection. If it be urged that abuse can only occur on the first application and that improper persons will afterwards be weeded out by the Public Assistance officer, I can only answer that if the new officer resembles the old it is extremely unlikely. That official will be only too prone to endorse the doctor's opinion. It seems to me that large and widespread gratuitous medical attendance for the poorer classes would be the inevitable result of the carrying out the proposals of the majority of the Commissioners.

At this point it seems desirable to say a few words in reference to the recommendation that the doctor, and not the relieving officer, should in the first instance be the judge of the right of the applicant to claim State assistance. This recommendation has been made because of difficulties that have been shown to exist where the poor have not ready access to the relieving officer, and also because it is stated that many of the deserving poor shrink from applying to that official who would have no scruple in approaching the doctor. That further facilities should be granted in the former case may be freely admitted, but I have no hesitation in saying that the remedy is worse than the disease. While endeavouring to safeguard a comparatively small class of the State poor, the present security of the whole is threatened with regard to obtaining prompt and immediate relief. At the present time, if a legal order is presented to the district medical officer, however awkward or inconvenient the summons, the latter must attend. Under the new arrangement he need only do so if he considers the applicant entitled to his services. This may be a gain to the doctor, but it is by no means certain that it is good for the poor applicant. It is further certain that many more under the new arrangement would seek and obtain free medical relief, but by no means so certain that the increase would include any but an insignificant fraction of those properly entitled to relief who refrain from applying because of having to face the relieving officer.

I now come to the recommendation of the Minority—viz., to retain the Poor-law medical officers as a distinct State service, but to arrange them side by side with the sanitary State service as a branch of the public health department. This proposal is free from many of the objections I have above referred to, and at least, in my opinion, is practical and statesmanlike. In the first place, it recognises what I consider the *sine quâ non* of any system of Poor-law medical relief—that it shall be administered by a separate and distinct public service, in which the officers are removed from considerations inseparable from competitive medical practice, where proper Government inspection is possible, and where the mere "bottle of medicine" treatment, if not entirely done away with, may at least be kept within moderate limits. In other words, it does not propose to destroy the present service, but rather to utilise it in a somewhat different manner. It is true that one of the tendencies would be to make the district medical officership a whole-time appointment and to debar the district medical officer from general practice, but I am not sure that under the present system the tendency is not in that direction. It also might encourage too freely gratuitous medical relief. If the Poor-law medical service, when ranged side by side with the public health medical service, were to minister relief as freely and gratuitously to all classes of the community as is done now by the latter, great dangers might arise. If thereby a higher degree of physical health were attained by the people, it would, in my opinion, be dearly paid for by undermining their independence and pauperising the lower classes of the nation.

On the whole, I am in favour of a continuation of the present system, but with suitable reforms. There are many abuses to be removed and necessary adjustments to be made to meet the requirements of the present day. But I do not think that its fundamental structure is likely to be bettered. As to what authority our service is placed under is a secondary consideration. In no other public service is practical experience in its official work and administration more important, both in the interests of the poor and of the public, and consequently long and faithful service under the Poor-law should be rewarded, as in other public services, by increase of salary and improvement of status.

None of us who have studied the careful and elaborate report of the Commission can fail to recognise the great value of the labours of the Commissioners. Their report is a vast storehouse of facts, throwing much light on the condition of the poor throughout England and Wales. We only demur to the way in which these facts have been employed in elaborating arguments for the sweeping changes proposed in our service. Speaking generally, I think it will be found that nearly all the members of our service would regard favourably most of the proposals of the Commissioners that have met with the unanimous support of the whole body.

Hackney-road, N.E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE PRISM AS AN AID TO DIAGNOSIS IN PARALYTIC DIPLOPIA.

BY R. BRUCE FERGUSON, M.A., M.D., B.C. CANTAB., D.P.H., &C.,

FORMERLY HOUSE SURGEON TO THE ROYAL WESTMINSTER OPHTHALMIC HOSPITAL; CLINICAL ASSISTANT, ROYAL LONDON (MOORFIELDS) OPHTHALMIC HOSPITAL, ETC.

ONE occasionally comes across a case of diplopia which seems to transgress all the established rules regarding the position of the false image, and which defies all attempts at making an accurate diagnosis as to the particular muscle at fault. Such a case I have lately had under my care.

The patient was a healthy man, aged 36 years. The right eye was the one affected, and the diplopia appeared rather suddenly, without obvious cause. There was no ptosis or alteration in the pupil; no sign of optic neuritis or other fundus change. I examined him in the usual way, placing a red glass in front of the right eye. When a light was held directly in front of him the false image was displaced downwards and to the left ("left" and "right" here refer to the patient's left and right), and on moving the light to the left, the false image retained the same position. It thus seemed perfectly obvious that I had to deal with a case of paralysis of the inferior rectus. But on bringing the light to the right, the false image at once changed its position, being displaced downwards and to the right, the former crossed diplopia thus becoming homonymous, and paresis of the superior oblique being indicated with equal certainty. This test was repeated on several occasions, and always with the same results. The patient was unable to perceive any increase in the amount of lateral deviation of the false image on moving the light further from the middle line to either side. The question thus arose, which of the two muscles was at fault? Both were probably not affected, since it was difficult to conceive of a lesion which, whilst involving the fourth nerve, should also involve only that branch of the third nerve which supplies the inferior rectus, as shown by the total absence of all other symptoms of third nerve paralysis, such as ptosis or pupillary changes.

I next proceeded to ascertain what could be done in the way of correcting the diplopia with the aid of prisms, and I found that a prism of 6°, base downwards and outwards, and its axis making an angle of 60° with the horizontal, gave a perfect correction. In fitting a prism, the rule is to turn the base in the direction of action of the paralysed muscle. In this case the base was turned down and out; the action of the superior oblique is to turn the eye downwards and outwards. The diplopia was thus entirely corrected by treatment such as would be adopted in an uncomplicated case of paresis of the superior oblique; and the point arises, is one justified in assuming that paralysis of a particular muscle is present, on the ground that treatment for paralysis of that same muscle is alone effective in removing all symptoms? If this assumption be legitimate, and I think it is in the case of the eye, the individual muscles of which possess such distinctive actions, then we have in a prism a most valuable aid to diagnosis in doubtful

cases, since it is only necessary to find the prism which corrects the diplopia, and then by noting the direction of its axis and the position of its base, one is at once enabled to state which is the affected muscle.

It is probable that attention has been drawn to this point before, though I am not aware of the fact, nor have I found any reference to it in the text-books. I may add that I prescribed prisms of 3° for each eye; these enabled the patient to attend to his business in great comfort, which he was totally unable to do before; meanwhile slow improvement is taking place under potassium iodide.

New Southgate, N.

A CASE OF RUPTURED UTERUS WITH PERFECT RECOVERY.

BY R. N. GEACH, M.R.C.S. ENG., L.R.C.P. LOND.

ON Jan. 28th of this year I was called to see a woman who was in labour. The story of the woman in attendance was that shortly after her arrival the patient began to feel very ill, and complained of acute pain low down in the right side of the abdomen. The labour pains stopped completely, and the woman complained of feeling very cold and sick. Shortly after this she vomited. The lips and cheeks were blue and the face was very pale. On arrival I found the woman in a very collapsed condition, and suspecting some mischief present I proceeded to deliver with forceps, but having some difficulty in keeping them on the head I performed internal version and delivered. The placenta not being born naturally I inserted my hand, previously very carefully made aseptic, in the uterus to remove it and then found a large rent in the posterior wall of the uterus, about six inches long, commencing from the vagina and running upwards in a longitudinal direction. Having removed the placenta I decided, owing to the very serious condition of the patient, to do nothing in the way of active surgical treatment, and merely placed the edges of the rent in the uterus in apposition; I did not douche or put in a drainage-tube. When I left the house the patient's condition was desperate, a running pulse, cold extremities, blue face and lips, and shallow breathing. This condition continued for 48 hours, accompanied by a certain amount of abdominal pain, chiefly in the right iliac region. On the day after delivery I showed the case to Mr. H. P. Symonds of Oxford, who agreed with me as to the bad chance of recovery. On the third day after delivery the patient rallied, and the symptoms of shock passed off, and then commenced a condition of subacute peritonitis, lasting for three weeks. Champagne and brandy were freely given, and for several days she lived on those stimulants and a small amount of milk and barley water. The temperature varied between 99° and 103° F., with a very feeble and rapid pulse. Cystitis was a complication of the case and there was much vomiting. The temperature came down to normal at the end of the third week, and after another fortnight the patient was able to leave her bed. At the present time the woman is in very fairly good health and performing her usual household duties.

Charlbury, Oxon.

A CASE OF SPASMODIC TORTICOLLIS FOLLOWING CHOREA.

BY T. E. LISTER, M.B., CH.B. LEEDS,
SENIOR HOUSE SURGEON, CLAYTON HOSPITAL, WAKEFIELD; LATE RESIDENT OBSTETRIC OFFICER, THE GENERAL INFIRMARY, LEEDS.

THE patient, a boy, aged 17 years, first began to have spasmodic contractions of both sterno-mastoid muscles alternately about the beginning of April of this year. The condition gradually became worse until April 15th, when he was brought to the out-patient department by his mother. He had two years previously been in the hospital for chorea, which he had very severely. On April 15th the patient was put on to the following mixture: pot. brom., gr. xv.; liq. arsenicalis, ♏ iii.; aq. ad ℥ i.; t.d.s. He came to the out-patient department a week later feeling much better, the severity and frequency of the attacks being less. The medicine was repeated, but during the next week he became very much worse and came to the hospital and was admitted.

On admission the patient was very pale and thin. He had very light-coloured hair and was obviously under-developed, having no pubic or axillary hair, and weighing only 4 stones 7 pounds. The spasm affected the sterno-mastoid and also the deeper muscles of the neck, together with the platysma myoides. At the same time that the face was forcibly jerked over to the opposite shoulder the patient took a sharp, short inspiration, proving that the inspiratory muscles were affected. The spasm appeared to occur more frequently on the left side, thus jerking the face to the right, but both sides were affected. The successive spasms varied in intensity, some only bringing the chin slightly towards the right, whilst others brought it into line with the occiput and the right shoulder. During the spasm the boy's face became paler and the lips distinctly blue. The spasms were more frequent if the patient were being watched or if he became excited. The spasms were so bad that it was almost impossible to feed the patient, and he was not able to hold anything in his hand; they, however, disappeared during sleep. The depressor muscles of the inferior maxilla were affected, for at the same time that the inspiration was made the mouth was jerked open. No abnormal signs were found in the skin or deeper parts of the head and neck. There was an oval-shaped prominence over the cardiac area on the left side of the sternum, including the second, third, fourth, and fifth costal cartilages. It extended from the sternum almost to the mammary line at its widest part. The cardiac dulness was normal and the apex beat could be felt at the nipple line in the fifth interspace. There were no abnormal pulsations seen over the cardiac area and no thrill could be felt. The first sound was rather weak at the apex. Over the tricuspid area there was a distinctly snapping second sound. There were not any bruits heard. There was pulsation in the large veins of the neck. The knee-jerks were normal, there was no ankle-clonus, and Babinski's sign was absent. No other abnormal signs were found.

Progress in hospital.—On May 5th the spasms had gradually become weaker and fewer. On the 7th no spasms were seen, but a slight twitching of the inferior maxilla was occasionally seen if the patient became excited.

Treatment.—On admission the patient was put to bed in a private ward away from the other patients. Light diet was given, together with the following: Sodii salicylatis, gr. xv.; aq. chloroformi ad ℥i., t.d.s.; virol, ℥i., t.d.s. These medicines were continued until the patient's discharge on May 29th. For three weeks before discharge he had had no spasms and there have been none since.

The special reasons for reporting this case are: that it is unusual to find spasmodic torticollis in a patient so young; also the close connexion which this case seems to have with chorea, which the boy had previously; and, thirdly, the speedy recovery which took place, most cases being particularly intractable.

I am indebted to Dr. F. H. Wood for his kind permission to publish the case.

Wakefield.

Medical Societies.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Fevers in Rangoon.—Preventable Diseases in Siam.—A Case of Amœbic Abscess of the Spleen and a Case of Blackwater Fever.

A MEETING of this society was held on July 16th, with Sir PATRICK MANSON, the President, in the chair.

Lieutenant-Colonel J. R. FORREST, R.A.M.C., sanitary officer, Burma Division, communicated a paper on Fevers in Rangoon. In Rangoon they had not yet emerged far from the period when every case of fever was returned under one of three headings: (1) malaria; (2) simple continued fever; and (3) enteric fever. A further classification, based on easily recognisable features, would not only tend to a clear conception of the fevers with which they had to deal, but would modify and improve treatment. Nowadays it was quite insufficient to return a fever under the heading "malaria." Every medical officer ought to be capable of saying whether a case of malarial fever was (1) simple benign tertian; (2) benign tertian with double infection;

(3) malignant tertian; or (4) quartan. No case ought to be returned as malaria in which the temperature had been unaffected by four days' treatment with quinine, in doses of at least 30 grains a day. It was essential to point out that a case was not necessarily malaria because it had failed to give a positive Widal reaction, yet that was the conclusion to which many diagnosticians seemed to come. Cases were often returned as "dengue," which, he maintained, were not "dengue"; and that because the characteristics of dengue were forgotten or ignored. Dengue was a three-day fever, with a primary and often a secondary rash, with a secondary rise of temperature, the pains were excruciating, and the disease was epidemic. Many of the cases returned as "dengue" were really instances of "pyrexia" of uncertain origin—i.e., to be further differentiated. Moreover, there were in Rangoon many typical cases of what Rogers had called seven-day fever. The saddle-back depression in the temperature curve could not be mistaken. There were general pains, and temporal headache was commonly severe, but the agonising "breakbone" pains of dengue were absent. Microscopically, there was a diminution in the number of polynuclear leucocytes. There was also a fever in Rangoon which did not present the temperature curve of seven-day fever, nor the characteristic signs and symptoms of dengue. It occurred during the rains, ceasing early in September. The temperature curve was like a parabola in form; it might rise to 103° or 104° F., and the course of the fever might extend from three to 14 or 15 days.—Dr. J. L. MAXWELL pointed out that a better definition of fevers was required.—Dr. C. F. HARFORD said that there were not sufficient data for a proper classification.—The PRESIDENT agreed that it was impossible to attempt to classify the fevers in the East because of the want of accurate information.

Dr. P. G. WOOLLEY communicated a paper on Preventable Diseases in Siam, in which the value of modern sanitary measures was described. He considered that because gastro-intestinal diseases caused more than half the deaths in Siam, therefore that mortality could be ascribed to water-supplies and was due to preventable causes.

Dr. MAXWELL read a paper by his brother, Dr. J. PRESTON MAXWELL of Amoy, on two rare cases from the Fuh-Kien Province, South China. One was a case of Amœbic Abscess of the Spleen in a Chinaman. The splenic tumour filled the left half of the epigastrium and projected into the right thigh. After an operation, in which 80 ounces of pus were evacuated, the patient recovered. Amœbæ similar to those found in the stools of the patient were discovered in scrapings from the wall of the abscess cavity. The cause of the splenic abscess was ascribed to direct infection from the splenic flexure. The second case was one of Blackwater Fever in a patient who had had attacks of malarial fever that had been insufficiently treated with quinine. When the patient was attacked with the blackwater fever he was given a mixture containing spirit of nitrous ether and spirit of chloroform. The urine slowly cleared and he gradually recovered strength and returned home. Blackwater fever, in spite of the severity and fatality of malarial fever in some parts of the province of Fuh-Kien, was an almost unknown disease there.—Dr. W. CARNEGIE BROWN observed that the capsule of the spleen seemed to him to offer sufficient protection against infection from the splenic flexure in a case of amœbic abscess of the spleen.—Dr. J. L. MAXWELL could not imagine the infection spreading from the splenic flexure. It seemed to him more likely that the infection was carried by the blood-stream.—The PRESIDENT said that he suspected that occasionally these sporadic cases of blackwater fever were examples of paroxysmal hæmoglobinuria.—Mr. J. CANTLIE said he had seen cases of blackwater fever in China in which there was no doubt about the diagnosis. He had treated a case of blackwater fever successfully by giving ten drops of turpentine every four hours.—Dr. OSWALD BAKER said that the geographical distribution of blackwater fever should be accurately determined, and Dr. HARFORD discussed the prophylactic use of small doses of quinine after an attack of blackwater fever.

Mr. J. Sewell, honorary veterinary surgeon to the Zoological Society, has recently performed the minor operation of cutting the overgrown claws of a large lioness after the animal had been anæsthetised in a "chloroform box."

Rebiews and Notices of Books.

Moral Instruction and Training in Schools: Report of an International Inquiry. Edited by M. E. SADLER, Professor of the History and Administration of Education in the University of Manchester. London: Longmans, Green, and Co. 1908. Two volumes, pp. 538 and 378. Price 5*s.* net each volume.

THE two volumes under consideration contain the written reports and the papers read at the International Congress which met in London in the autumn of 1908 to consider the question of moral instruction in schools. There is an introduction by Professor Michael Sadler, in which the evidence brought forward is summed up impartially and clearly, and the origin and *raison d'être* of the congress is described. In 1906 a number of people interested in education met in London to discuss whether "more might not be done by means of moral instruction and training in schools to impart higher ideals of conduct, to strengthen character, and to promote readiness to work together for social ends." So diverse were the opinions in the ensuing discussion that it was deemed advisable to institute an inquiry into the subject of moral instruction in the schools of the United Kingdom and other countries. A council was formed of many hundreds of people, representing all forms of educational experience. Professor Sadler states that "no more representative a council has ever been formed for the investigation of an educational problem in this country." Certainly the matter and method of attacking the problems of moral instruction in the two volumes are as varied as are the people and nations from whom the reports are sent. Not only are all grades of schools represented, primary and secondary, public and private, the pauper and the well-to-do, but all lands from East and West—France, Germany, Switzerland, Norway and Sweden, Denmark, Belgium, America, Canada, Australia, New Zealand, and Japan. It follows necessarily that all points of view are represented, though the different teachers hold different opinions as to the ultimate authority on which morality is based, whether prudential, personal, social, or religious. But whatever their diverse opinions as to the origin of morality, all are agreed that in order to obtain the best out of an individual, both for himself and for the community, it is necessary that the schools should give moral instruction; this most important part of education cannot be left entirely to parental discretion. If the State simply compels the child to have its intellectual faculties trained without giving any indication as to how those faculties may be employed usefully and happily for the community there is certain peril both to the individual and to the State. Though the necessity of moral training is strongly urged in all the reports, there is a diversity of opinion expressed as to whether the instruction should be given directly or indirectly. Direct moral instruction includes parables, talks, or systematic lectures on the virtues—for example, on honesty, thrift, kindness, patriotism, and civic and family duties. Indirect moral instruction includes (1) the cultivation of many-sided interests; (2) the provision of moral atmosphere; and (3) moral training in good habits. Both systems can claim excellent results. From a perusal of the reports we gather that, broadly speaking, in schools with pupils derived from the British middle or wealthy classes, where there is an atmosphere of culture, manners, and refinement in the homes, it is better to teach morality indirectly, but in schools with pupils drawn from our social substratum it is more necessary to give direct instruction in manners and morals.

The importance of combining education of the body as well as of the intellect for the benefit of the scholar's

morale is demonstrated by Mr. Legge (director of education of the city of Liverpool), who describes the results obtained by the reformatory and industrial schools. In these schools the day was divided into two parts, one of which was devoted to literary and intellectual work, the other to practical and constructive work of a kind calculated to stimulate the interest, hold the attention, and promote the development of the reasoning powers. After five years' trial it was found that the ordinary school work had risen in standard, but more marked still was the increased moral well-being. The children's pride in their honest work had influenced their characters for the better. Quite as impressive were the effects of physical training. "Firm flesh, straight bodies, heads erect, hale complexions, intelligent eyes, and a ready smile; these characteristics were found nearly always to imply in the doctor's book an almost clean sheet, and in the record of conduct little absconding, few offences against morality, next to no bullying; only an occasional case of pilfering or lying." Mr. Legge quotes John Milton, who urged that exercises "will keep them healthy, nimble, strong, and well in breath; is also the likeliest means to make them grow large and tall, and to inspire them with a gallant and fearless courage, which being temper'd with seasonable lectures and precepts to them of true fortitude and patience, will turn into a native and heroic valour, and make them hate the cowardice of doing wrong."

The effect of direct moral instruction based upon purely intellectual and upon religious grounds is well illustrated by the reports from France and Japan respectively. Both are worthy extensive quotation. Mr. Harold Johnson writes a very exhaustive account of the French method, where the moral lessons are often given in a prevailingly sceptical atmosphere. "Be reasonable" is often the final appeal. "No child," says Mr. Johnson, "need leave the primary school in ignorance of the fundamental moral distinctions. ..... Teacher and pupil in the lycée and Normal College revel in the subtlest dialectic in truly Socratic fashion and grapple with the profoundest moral problems. ..... This procedure appears to be followed by quite fatal results. Montpellier reports that most of the professors admit not having observed any appreciable progress in the character of their pupils as a result of the lessons (given since 1902). One remarked that 'my prizeman in morals is the biggest knave of the lot.'" Mr. Johnson concludes that while the intellect is crammed with moral problems the physique is neglected and the moral lessons are not brought into active virile contact with the pupil's real life. The moral lessons deal with the homely and prudential virtues, neglecting the larger ideals that give scope to the imagination and draw out the disinterested and higher qualities of human nature. Mr. Reginald Balfour concludes his inquiry into the French system with very similar criticism: "All moral instruction, given without the sanction and appeal to more sacred claims than those of duty to the community or to self, is quite inadequate for its object, namely, the formation of individual character and the foundation of national virtue."

Contrast this state of affairs with that met with in Japan. In that country the child receives, as well as careful direct moral instruction, training in physical development, while love of art and beauty are inculcated into the lessons on manual work, agriculture, and commerce The duties of citizenship are taught to every child. Baron Kikuchi (p. 319, Vol. II.), Minister of Education in Japan (1901–03), contributes the report on the spirit of Japanese education. He states: "The effectiveness of the moral teaching in our schools is very largely based upon the almost religious attitude towards the Emperor, and it is effective because the moral instruction in Japan is based upon something very similar to what you would call in England a 'religious sanction.' ..... In Japan we talk of duty, of what we have to do, and we talk very little of rights." The teaching of morals is based on the Imperial Rescript on Education, which, published in 1890, saved the State from drifting away after the inevitable sapping of the old foundations of morality by the Restoration in 1868, when the military class lost their privileges and nothing had been found to take the place of the old Chinese philosophy.

Denmark leads the van in the teaching of what may be called the personal virtues closely connected with the rudimentary facts of life, facts which most nations and individuals either ignore or regard as unable to be dealt with. In the reports from Denmark the subject of sexual hygiene is not regarded as an inexplicable and troublesome problem which individuals must worry out as best they can. In the Danish view, as well as in that of many of our sanest thinkers, it is ignorance that is the cause of the social problem which is the canker at the heart of high civilisations. For the well-being of the individual it is essential that these matters should be placed on a high plane, not relegated to holes and corners. Clear and early instruction is the only chance of raising the moral tone of a nation, of leading to happy manhood and womanhood, and to a purer family foundation. Co-education is general in Denmark. In other countries also, where it has been tried not from motives of economy but from the high ideal of a noble sex-comradeship, the results have been eminently satisfactory for both sexes. The Rev. C. Grant (Harpenden, Herts) writes (Vol. I., p. 248): "If a wise system of co-education were universal in England sexual immorality ..... would become as extinct as hydrophobia now is." This is, of course, a too summary pronouncement, and leads us to suppose that Mr. Grant is not wholly familiar with the situation. The medical profession, who in the near future will have more influence in schools, both at home and abroad, than they have hitherto had, know well the difficulty of the problem that lies before those who would instruct the young in the problems of sex, and a majority of them would probably consider that co-education of the children made the problem no simpler.

We heartily recommend these volumes to all members both of the teaching and of the medical profession.

Mitteilungen aus der Augenklinik des Carolinischen Medico-Chirurgischen Instituts zu Stockholm. Edited by Dr. J. WIDMARK, Professor of Ophthalmology at the Institute. Ninth Fasciculus. With one plate and 12 figures in the text. Jena: Gustav Fischer. 1908. Pp. 130. Price 5 marks.

OPHTHALMOLOGISTS are familiar with the valuable communications which are issued from time to time from Professor Widmark's Clinic at Stockholm. We do not commend this method of publication, for there are so many good journals devoted to ophthalmology, to which reference is naturally made for recent work on any subject, that these by-products are likely to be overlooked. Moreover, unless they are very freely distributed they may be difficult of access. Widmark's "Mitteilungen," however, are so highly esteemed that they have now attained an assured place in the literature and will be found in most good ophthalmic libraries.

The present fasciculus contains three papers by the editor. The first deals with a case of bilateral detachment of the retina, which underwent what may be regarded as spontaneous cure, a fact which those conversant with the malady will consider sufficient reason for publication. The condition appears to have been due to retrobulbar inflammation originating in the ethmoidal and other accessory sinuses of

the nose. Two other cases from a similar cause are recorded in the literature, and in both the retinal detachment disappeared. This result, so at variance with that to which we are accustomed, places the cases in a group apart. The possibility of actual indentation of the walls of the globe by an inflammatory deposit, and not a true detachment of the retina, is not considered by the author. Professor Widmark's second paper reports three cases of toxic amblyopia of unusual etiology. Two appear to have been due to the inordinate consumption of coffee, one probably to poisoning with arsenic. The third communication discusses the treatment of sympathetic ophthalmia with sodium salicylate, and extends the observations of Lindahl in a previous fasciculus of the Mitteilungen. The author obtained unusually good results and commends the use of the drug in these troublesome cases. This paper also contains some interesting statistics. Lindahl contributes two papers on the action of lacrymal secretion upon bacteria. Many investigations have been carried out on this subject with ambiguous results. Lindahl finds a definite slight antiseptic effect upon ordinary pyogenic organisms, due to an enzyme. He also shows that human tears contain active agglutinins against staphylococci. Forsmark reports a case of bilateral symmetrical epibulbar leucosarcoma, with details of the histological structure. Gertz describes an apparatus for the estimation of refraction by use of the inverted ophthalmoscopic image. The instrument, which is called the parallax-optokrit, is not likely to replace the retinoscopic mirror. Lamm records two cases, one of a slight congenital malformation of both optic discs, probably remnants of the hyaloid arteries, the other an orbital tumour.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. An Inquiry on Enteric Fever in India carried out at the Central Research Institute, Kasauli, under the direction of Lieutenant-Colonel D. SEMPLE, R.A.M.C., M.D. R.U.I., Director of the Institute; and Captain E. D. W. GREIG, I.M.S., M.D. Edin. No. 32. Calcutta: Office of the Superintendent of Government Printing, India. 1908. Pp. 108. Price R. 1 annas 2, or 1*s.* 2*d.*

FOR a long number of years the etiology of enteric fever has been a fruitful subject of discussion in India. The question has gone through many stages. Thus at one time in Madras Surgeon-General A. Gordon, principal medical officer of Madras, laid it down that there was no such disease as enteric fever in India; to whom succeeded Sir Anthony Home, who, when principal medical officer of His Majesty's Forces in India, issued an order that all cases of fever in which at the post-mortem examination ulceration of the intestines was found were to be returned as cases of enteric fever, no matter what the nature of the ulceration. Naturally, under Home the cases of enteric fever appeared to greatly increase. Then we had that theory so beloved by the Government of India at one date, and which took various verbal forms, such as—that enteric fever was due to "climatic causes"; "that typhoid fever in India is primarily due to climatic influences"; that "geographical position and climatic influences, heat, moisture, organic decomposition, miasmata, and a variety of aerial and telluric conditions are more likely than a specific cause in India." But happily now we are less imaginative, and it would seem that there is nothing so mysterious concerning the prevalence of enteric fever in India. Under the wise initiative of Lord Kitchener an exhaustive inquiry was ordered on the subject in India.

The inquiry, the results of which we are now reviewing, was commenced in April, 1906, at the Central Research Institute, the officers participating in it being Lieutenant-Colonel Semple, the director of the institute; Captain E. D. W. Greig, Lieutenant-Colonel F. Wyville Thomson, I.M.S.; Captain D. Harvey, R.A.M.C.; Captain F. N. White, I.M.S.; Captain E. C. Hodgson, I.M.S.; and Assistant Surgeon Paras Ram. The essential matter to discover was the storehouse of the virus of enteric fever, and consequently the persistence of the disease amongst the troops in cantonments. General sanitary measures only could be adopted for the prevention of the fever in absence of any precise knowledge, and the results of these were not very satisfactory. In 1902–03 Koch commenced his important investigation into the etiology and spread of the disease and at length evolved two very important facts—viz., (1) that the saprophytic existence of the parasite outside the body is very short; and (2) that it lives in the bodies of men for a long time after they have acquired immunity from the disease. So that man, in fact, is the storehouse of the virus, from which he infects susceptible individuals. The conditions as regards enteric fever in Alsace Lorraine appeared to be very similar to those met with in Indian cantonments, and as Koch's precautions against the disease were here very satisfactory Captain Greig was deputed by the Indian Government to proceed to Germany to study the methods on the spot. In 1906 an inquiry into the causation of enteric fever was commenced at the Central Research Institute, Kasauli, and the problems to be solved were: (1) the nature and duration of the saprophytic life of the bacillus typhosus; (2) the duration of its life within the human host; (3) the way in which epidemics are produced. As the result of the inquiry, in which full use was able to be made of Koch's experience, it has been determined, amongst other facts, that the bacillus typhosus continues to be excreted for long periods in the urine and fæces of a certain percentage of the convalescents; that the number of bacilli in the urine is very large; that the "chronic bacilli carriers" are the cause of epidemics; and that enteric fever orderlies may become "chronic bacilli carriers" without having passed through an attack of the disease. Consequently the Commission recommends that the urine or fæces of all convalescents should be submitted to a careful daily bacteriological examination for a prolonged period. A special body of trained men for the purpose of nursing enteric fever patients should be found, for otherwise these "chronic bacilli carriers" under the present system at the end of their period of duty as enteric nursing orderlies return to their units and so become fresh foci of infection. This must for the future be obviated. Lastly, all men—European and native—must be subjected to a careful bacteriological examination before they are permitted to be employed in connexion with the preparation and distribution of food and drink to their comrades.

This report is a most excellent piece of work, the results of which are bound to be beneficial to our Indian Army, but it requires little insight to perceive that difficulties of administration would follow upon the adoption of some of the recommendations.

A Treatise on the Principles and Practice of Medicine. By ARTHUR R. EDWARDS, A.M., M.D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the Northwestern University Medical School, Chicago. Illustrated. Edinburgh and London: William Green and Sons. 1908. Pp. 1328. Price 33*s.* net.

THIS text-book is written on sound and well-reasoned lines, adequate attention to scientific theories being subordinated to the discussion of the cure or the alleviation of disease. Accordingly, an unusual amount of space has been devoted to treatment, to the detailed consideration of drugs, and to numerous formulæ and prescriptions suitable for the practitioner to use or improve upon. The physiological action of drugs is considered at length, the author's reason

for taking this course being that he believes the symptoms of disease are more often confounded with those of the remedies exhibited for its cure than is quite creditable to therapeutics.

The various diseases are considered in the manner usually adopted in text-books on general medicine with the exception that the causative pathology has been blended with the consecutive clinical features of the disease. The general plan which is adopted may be best explained by taking one disease as an example, and we have selected pleurisy for this purpose. The *definition* is first given—"an inflammation of the pleura, rarely primary but usually secondary to tuberculosis or other lung disease, general infections, septicæmic affections, and various diseases in contiguous tissues or organs." The *etiology* is then considered in a very comprehensive manner, the associated pathological conditions being fully indicated. The *bacteriology* is next discussed, attention being drawn to the fact that the etiological classification already given does not correspond to the bacteriological division. The *symptomatology* (which includes the physical signs) is given in great detail, and certain phenomena are mentioned which are not found in recent text-books, such as the rhythmic lateral displacement of the heart which is often marked in medium-sized effusions. *Special forms* of pleurisy are next described. Emphasis is rightly laid on the value of cyto-diagnosis. It is now generally recognised that the presence of an increased number of lymphocytes is characteristic of primary tuberculous pleurisy and affords diagnostic data before the results of inoculation are available. The differential *diagnosis* is well given, and the various difficulties which arise are duly dwelt upon. After a few remarks on *prognosis* the *treatment* is adequately discussed. It will thus be seen that Dr. Edwards carries out his task with systematic thoroughness, while a full index adds to the value of the book.

Lehrbuch der Ohrenheilkunde für Studierende und Aerzte. (Text-book of Aural Therapeutics for Students and Practitioners.) By Dr. GEORG BOENNINGHAUS, Lecturer on Otology; Aural Surgeon at St. George's Hospital, Breslau. With 139 figures in the text and one coloured plate. Berlin: S. Karger; London: Williams and Norgate. 1908. Pp. 376. Price 9 marks 80 pfennig.

Dr. Boenninghaus commences with a description of otoscopy, and in this chapter there is the time-honoured illustration, so common in most books on otology, rhinology, or laryngology, which shows how the light is reflected from a mirror into a cavity. But there is one point mentioned here in connexion with the examination which is rarely considered in works of this description—namely, the examination of the membrana tympani with a powerful magnifying glass, that which is recommended as being most serviceable being one of 7½ centimetres and 13 diopters. The second chapter is on the parts seen, and the information to be derived therefrom in the otoscopical examination. This part of the book contains many points of interest, and shows an unusual minuteness of observation, together with an ability to record its outcome, as is seen in his consideration of the various angles of the malleus, the shape and sizes of the cone of light, the variations in the short process or in Shrapnell's membrane, or in the stria malleolaris, &c., all of which are carefully illustrated by means of diagrams. The functions and testing of the ear form the subject matter of the third chapter, in which there are many very interesting points which will well repay careful attention. We may especially mention the part in relation to accommodation. It is interesting to note that the tuning-forks recommended vary from C, having 16 vibrations, to C^3 in the treble, having 32,768 vibrations—a much higher tuning-fork than we are in the habit of using in this country. And in contra-distinction to the teaching of Bezold the writer prefers to use the octaves of A, and we may here incidentally remark that in all probability in a noisy place the octaves of A are superior to those of C for the purposes of investigation. Here also we find an extremely valuable contribution to the differential diagnosis between middle-ear and labyrinthine deafness. Moreover, the methods of testing the integrity of the labyrinth are very clearly set forth.

The second part of the book, of which the fourth chapter forms the commencement, is devoted to the special pathology and therapeutics. The fifth chapter is concerned with diseases of the middle-ear, and begins with a description of its anatomy and physiology. In these two chapters there is but little that is novel. After a very excellent *résumé* of the present knowledge of otosclerosis, the sum total of the treatment, according to Dr. Boenninghaus, is massage, by which it is hoped to mobilise the stapes. The sixth chapter deals with diseases of the internal ear, the more modern treatment of attacking the vestibule for vertigo and the cochlea for tinnitus being recommended. The operative methods are dealt with in a separate chapter, and there is a very beautiful plate with 28 coloured illustrations of the tympanic membrane at the end of the book. There is so much in Dr. Boenninghaus's book which is novel, and such frequent evidence of an intimate acquaintance with his subject, that no aurist will be able to peruse it without pleasure and profit.

LIBRARY TABLE.

The Sanitary Officer's Handbook of Practical Hygiene. By C. F. WANHILL, Major R.A.M.C., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Conjoint Board of England, Assistant Professor of Hygiene at the Royal Army Medical College; and W. W. O. BEVERIDGE, D.S.O., Major R.A.M.C., M.B., C.M. Edin., D.P.H. Camb., F.C.S., Analyst to the Army Medical Advisory Board. London: Edward Arnold. 1909. Pp. 151. Price 5*s.* net.—This is a compact handbook of practical hygiene, written by two officers of the Royal Army Medical Corps with the object of supplying an epitome of the laboratory technique covering the examination of water-supplies, sewage, ventilation, calculation of diets, bacteriological problems, and the analysis of foods and beverages. The general scheme is that on which the training in the hygiene laboratories of the Royal Army Medical College is carried out, and which has been found to be satisfactory both for military purposes and for preparation for the Public Health Diploma examinations. The book is interleaved to allow of the reader adding further notes, and teaching of the subject is not attempted, it being assumed that the reader has had previous training and requires merely to refresh his memory with regard to details. Notwithstanding a few errors which appear, mainly of a typographical nature, and which may be regarded as inevitable in a first edition, we have formed a very favourable impression of the work; the authors handle their subjects well, the details of the technique of the various analyses are briefly but clearly described, and the condensation of matter is not unduly carried out.

Principles and Practice of Operative Dentistry. By JOHN SAYRE MARSHALL, M.D. Syr. Univ. Third edition. London and Philadelphia: J. B. Lippincott Company. With 725 illustrations. 1909. Pp. 654. Price 21*s.* net.—The title of this book is a little misleading, inasmuch as a large portion consists in an account of the anatomy and pathology of the teeth somewhat out of proportion to the amount of room allotted to the description of operative measures. We have, however, no quarrel with the author on this score, because he has provided some most excellent reading. The anatomy, development, and histology of the teeth are dealt with in the first four chapters; the descriptions given are good and the same

may be said of the illustrations accompanying the text. There is a good account of the bacteriology of the mouth, while the section dealing with the pathology of the dental issues is all that one could desire in a text-book for students. The book, however, from the point of view of operative dentistry, is disappointing and leaves much to be desired. It is strange to find in a modern work the old turnkey advocated for extraction; we thought that such instruments were regarded as relics of the past.

Geschichte der Laryngologie an der Universität Heidelberg, seit der Erfindung des Kehlkopfspiegels bis zum erste Oktober, 1908. (*History of Laryngology at the University of Heidelberg from the Introduction of the Laryngeal Mirror up to October 1st, 1908.*) By Dr. JURASZ, Professor of Laryngology at Heidelberg. Würzburg: A. Stube. 1908. Pp. 54. Price 3 marks.—As the title implies, this is a short history of the laryngoscope from its introduction in Heidelberg up to the present time. The second chapter deals with the clinic from 1875 onwards, and contains amongst other things a list of the contributions to literature founded on the work of the clinic which have been published during this period. This is followed by a list of the lecturers and teachers, and the courses of study as they have varied from time to time. Chapter IV. relates to the question of a permanent laryngological clinic, and gives a *résumé* of the various discussions which have taken place in reference to this. The work is historically interesting.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXVIII., No. 6, July 2nd, 1909. London: Cambridge University Press Warehouse. Price 4*s.* 6*d.*—The contents of this number include the following:—1. The Coagulation of the Blood, Part II., the Actions of Snake Venoms, Peptone, and Leech Extract, by John Mellanby, M.D. Cantab., George Henry Lewes student. 2. On Degenerative Changes in the Nerve Endings in Striated Muscle, in the Nerve Plexus on Arteries, and in the Nerve Fibres of the Frog, by J. N. Langley, F.R.S. This number also contains the proceedings of the Physiological Society for May 15th and for June 5th, 1909, and the table of contents with list of authors who have contributed to the thirty-eighth volume. Dr. Mellanby's article is a long one, and we can only extract some part of the summary supplied by the author. He finds: (1) That the venoms of an Australian viper (Notechis scutatias) and an Indian viper (Echis carinatus) contain principles which generate fibrin ferment from prothrombin. They therefore coagulate any fibrinogen solution to which they may be added. Consequently their active principles are physiologically equivalent to a mixture of tissue kinase and calcium salt, and by analogy may be assumed to consist of substances containing kinase and calcium salt in union with one another. But owing to the paradoxical influence of potassium oxalate on these venoms (this salt largely increases their coagulating activities) the hypothesis is advanced that the active blood-coagulating agents contained in them consist of pure kinase and that the calcium salt necessary to work in conjunction with this kinase is present in the prothrombin or fibrinogen solution adsorbed by the protein. The author also finds (2) that the rapid injection of small quantities of these venoms results in extensive intravascular coagulation, this intravascular coagulation being due to the rapid production of fibrin ferment by the kinase contained in the injected venom and the consequent rapid production of fibrin. His other inferences are that (3) the slow injection of small quantities of these venoms results in the production of fluid blood (negative phase blood), for the ferment is only slowly formed and can be dealt with by the blood and tissues; (4) cobra venom, which does not contain an antifibrin ferment, prevents the coagulation of blood by means of an antikinase; (5) peptone blood coagulates on adding to it birds' fibrin ferment (it does not contain a greater quantity of antifibrin ferment than normal blood derived from the same animal); (6) hirudin contains both an antikinase and an antifibrin ferment.

British Journal of Inebriety.—The July number of this journal contains an article on the Scientific Study of Alcohol and Alcoholism, which gives a brief account of the organised efforts that are being made in this and other countries to promote the study of the alcohol question on scientific lines. The facts set out in the article, which in view of the London meeting of the International Congress on Alcoholism has a very timely interest, will come as somewhat of a revelation to many persons who have been accustomed to associate the literature of this subject with the outpourings of the teetotal orator. It will be an agreeable surprise to them to discover to what a large extent the temper and methods of scientific inquiry have been brought into the investigation of this most important bio-social problem. In England and in several continental countries societies have been founded, mainly under medical auspices, for the special study of alcoholism, and much valuable work has been recorded in the journals published by these bodies. The *British Journal of Inebriety*, which is the organ of the Society for the Study of Inebriety, has done good service in this way, as has also the quarterly journal issued by the sister society in the United States. In Germany and Switzerland, where the temperance movement has always had a stronger scientific inspiration, much attention has been given to investigations concerning the physiological action of alcohol; and many of the leading authorities in the scientific world of Germany are to be found amongst the contributors to the special journals devoted to the study of alcoholism, such as the *Internationale Monatsschrift zur Erforschung des Alkoholismus* and the quarterly publications, *Der Alkoholismus* and *Die Alkoholfrage*. The medical and social aspects of intemperance also receive very full consideration in other scientific periodicals. To be useful to the students, all this voluminous and scattered literature needs to be classified and sifted, and this is one of the functions which has been undertaken by the recently formed "Bureau International contre l'Alcoolisme," which owes its origin to the zeal and energy of Professor R. Hercod. These evidences of a genuinely scientific spirit in the study of this question will be welcomed the more cordially because they contrast so strongly with the fanatical temper which up to recently was the characteristic of a good many temperance reformers.

Man.—The June number of *Man* describes some recent finds of ancient flint implements, and contains a report of an interview between the Prime Minister and a deputation which urged the necessity of establishing an Imperial Bureau of Anthropology within the Royal Anthropological Institute. At this interview, which took place on March 11th, Professor William Ridgeway, in explaining the object of the deputation, said that not only would some knowledge of anthropology be valuable to administrators in the Indian, colonial, and consular services, but there was evidence of its being a factor in commercial success. Mr. Asquith, in his reply, said that tuition in anthropology must be given by the universities, and there was no present prospect of the Government giving financial assistance. We commented on this matter in THE LANCET of April 10th, p. 1055, and adduced arguments showing the value of such a bureau.

Caledonian Medical Journal.—In the opening article of the July number of the *Caledonian Medical Journal* Colonel Kenneth Macleod, I.M.S. (retired), narrates some reminiscences of his connexion with the Durham County Asylum

at Sedgefield before entering for the Indian medical examination at Netley. He says that he now looks back on his period of service in the asylum with very kindly thoughts. Dr. A. C. Miller of Fort William contributes a long paper on the medical inspection of school children. Dr. William Stewart of Wiveliscombe, Somersetshire, writes on birds in myth and folklore. In the editorial paragraphs it is announced that the annual meeting of the Caledonian Medical Society will be held at Lancaster on Sept. 17th under the presidentship of Dr. David Blair. The Society offers a prize of £35 for an essay based on the examination of certain ancient Gaelic medical MSS., Scottish or Irish.

Journal of Laryngology, Rhinology, and Otology. Edited by Dr. J. MACINTYRE, M.B.Glasg., F.R.S.E., and Others. June, 1909. London: Adlard and Sons. Price 2*s.*—This number contains a paper by Dr. A. B. Kelly on Some Experiences in Direct Examination of the Larynx, Trachea, and Œsophagus, which is very well worthy of study. The rest of the number is made up of societies' papers and reports, with a few abstracts.

MEDICINE AND THE LAW.

Criminal Procedure where Prisoners are Alleged to be Insane.

IN an address delivered recently before the Legal and Literary Society of Perth Dr. A. R. Urquhart discussed the question of what should rightly be the procedure in criminal cases in which there is a doubt as to the sanity of a person charged with a crime. We gather from the pamphlet[1] which has reached us containing Dr. Urquhart's address, that in Scotland it has been questioned whether it is strictly logical to distinguish between those accused persons whose insanity is obvious, and whom it would clearly be cruel and unjust to try in open court, and those whose mental condition is more doubtful, or with regard to whom there is a disputed question of temporary dementia, possibly claimed to have existed only at the time of the perpetration of the alleged crime. Those who desire to be strictly logical apparently would have the question, "Is the prisoner sane or insane?" determined by a simple affirmative or negative answer before putting him upon his trial, on the ground that a man mentally deranged suffers from an impairment of the mind which prevents him from conducting or directing his own defence satisfactorily. He should, they say, if insane, be treated as such at once without being submitted to trial as a criminal, the matter of whether he did a certain act being allowed to stand over. Others, again, almost equally logical, urge that, be the man sane or insane, the doubt whether he did an unlawful act should not be allowed to hang over his head, but should be elucidated and set at rest. To some extent the procedure in Scotland seems to differ from that in England, tending to the raising and settling of the question of sanity upon the point of competency to plead. In England we are inclined to think that lawyers will consider the procedure now obtaining to be on the whole satisfactory from a practical point of view, and that medical men will be in accord with them as to the manner in which evidence is given and received as to the prisoner's sanity upon the trial which determines his guilt. That is to say, if the prisoner's sanity is to be adjudicated on by jurors after listening to abstruse and possibly contradictory medical testimony before judges who differ from one another in their treatment of the question of criminal responsibility, then that issue is best fought out with the whole of the facts laid once and for all before the tribunal. The two courses open have been referred to above. When a true bill has been found against a prisoner and he is put in the dock to plead, he may be so patently incapable of understanding the proceedings against him that it would be a scandal to let him remain before the court and be tried. In that case an Act of Parliament provides for the point being decided at once by the jury, and in practice there is seldom any dispute with regard to it, although Dr. Urquhart refers to a Scotch case in which the prisoner was found insane as a preliminary, on the application of the prosecuting counsel, in spite of the fact that those defending him were unwilling that this issue should be raised. On the other hand, there are degrees of insanity, and a man may have committed an unlawful act, who, apart from that incident, lived more or less the life that other men live without his neighbours indulging in any special criticism of his mental capacity. If such a man is indicted for a serious offence, possibly for taking the life of another, he himself or his friends on his behalf are often extremely anxious that he should be spared the fate of a criminal, although the prosecution may assert with tenacity that he is sane and deserves to be punished. The determination of the question thus put in issue may, or, indeed, must in most instances, involve the whole of the evidence as to the committal of an act, claimed possibly as a single example of wrong-doing, and as the result of a brief period of temporary derangement. Evidence on these occasions is gone into which is usually unnecessary where the question of fitness to be tried is raised, and it seems to us that the two classes of case must almost necessarily continue, if for no other reason, as a matter of practical convenience. If the issue of sanity at the time of the committal of the act had to be fought out at the initial stage in a doubtful case upon the whole of the evidence, and if the prisoner's mental condition were then found to be sound, obviously he could not be denied the right to plead "Not guilty." Thereupon the whole of the evidence would have to be gone into again upon the question whether, in fact, he committed the act alleged. We need hardly say that after the prisoner has pleaded the prosecution has to prove the case against him, and that he is presumed then to be sane until the contrary is established by evidence. We do not express the opinion that the ascertaining of the mental condition of the accused is conducted in the best manner possible in our criminal courts, or after the prisoner has passed from court to prison; that, however, is not the topic discussed in the address of Dr. Urquhart to which we have referred.

[1] The Present Law of Procedure in Medico-Legal Cases in which Insanity is an Element. By A. R. Urquhart. Edinburgh: William Green and Sons. 1909. Pp. 18.

THE UNIVERSITY OF LIVERPOOL.—Professor Harvey Cushing will deliver the fifth Mitchell Banks lecture on Recent Observations on the Pathology and Surgical Treatment of Intracranial Tumour on Wednesday, August 4th, at 4 P.M., at the University of Liverpool.

THE NATIONAL SOCIETY FOR EPILEPTICS: THE CHALFONT COLONY, BUCKS.—The sixteenth annual meeting of the governors of this society was held on July 19th, at the London offices, Denison House, Westminster, Mr. E. Montefiore Micholls being in the chair. He said that the extension of the Chalfont Colony, which had been so rapid in previous years, had continued without abatement during the past 12 months, a new home for 26 epileptic women having been opened in the middle of 1908, while about the same time two homes for epileptic children were commenced which had now been completed, and were to be open in the coming autumn. One of these homes was for boys and one for girls, and there was in either case accommodation for 24 patients. Each of the three buildings referred to had cost about £3500, and the entire amount had in every instance been provided through the generosity of an individual donor, the women's home having been built at the cost of Mr. Frederick Greene, the boys' home at that of the late Mr. C. A. Tate, and the girls' home at that of Mr. H. Woolcott Thompson. The reports of the executive committee and honorary medical staff for the year 1908 were received and adopted. From these reports it appears that the colony has now accommodation for 224 adult patients, but in view of the fact that there are estimated to be at least 40,000 epileptics in this country, of whom a considerable proportion would be suitable cases for treatment at Chalfont, it is obvious that the accommodation is still quite inadequate, and the committee points to the need for additional homes for men as especially urgent in view of the long period—amounting to more than two years—that male applicants have now to wait for admission, during which time the disease becomes confirmed and aggravated and the hopes of cure destroyed or diminished.

THE LANCET.

LONDON: SATURDAY, JULY 24, 1909.

The International Congress on Alcoholism.

AT what may be called the first international congress of which we have any record—namely, the Œcumenical Council of Nicea in A.D. 325—although all the members of the Congress were subjects of one power, they came from parts of the earth so far distant as Britain and the borders of Persia, and those who came from furthest off, spent at least six months on their journey. To the Congress which opened in London on July 18th to deal with the subject of alcoholism, representatives have come from Australasia, from India, from the two Americas, and from Norway in the North of Europe, and none has taken more than six weeks on his journey, such being the modern facilities for travel. Besides the foreign guests and representatives, the list of British officials and supporters includes a prince of the blood royal, members of the Government, archbishops, peers, both spiritual and temporal, deans, and other magnates of the Established Church, as well as representatives of the great Nonconformist bodies, Members of Parliament, eminent naval and military officers, numerous medical men, and other citizens renowned for their interest in charitable and educational matters. And all these have been dwelling together in unity during the present week, while discussing the ways and means to deal with one of the most insidious foes of the human race. The list of subjects debated includes such weighty matters as the Prevention of Alcoholism by Means of the Training and Education of the Young; Alcoholism as Affecting the Child, the Home, and the Nation; Legislative and Administrative Remedies for Alcoholism; and Alcoholism in the Light of Modern Scientific Knowledge as to the Action of Alcohol in Health and Disease. Here was certainly food enough for one week's discussion, and even for one year's. And international exchange of opinion has proved itself thoroughly useful—as always, for when one country hears what another is doing in the battle, weak places are made manifest, and faults in strategy can be corrected. The net result of the deliberations of the Congress is to make a retrospect of the past 40 years an extremely cheerful thing. Everywhere we see the enormous improvement as regards temperance which has taken place in this country, and can note also that the change of opinion which has brought this reform about has no geographical limits. As far as this country is concerned, in the upper classes nowadays open drunkenness is practically unknown, and among the masses the same improvement is becoming noticeable. It is not yet quite rare to see a drunken man in the street, but the charges of drunkenness on the days following public holidays are enormously reduced in their numbers, and the experience of the casualty department of our hospitals bears out the same cheerful tale. The revenue from excisable liquors has so fallen off as to cause anxiety to the Chancellor of the Exchequer—whose heart, however, must approve even while his financial feelings are outraged; and in the navy and the army, owing to the devoted efforts both of officers and of whole-hearted outside workers (as for instance, that admirable woman, Miss AGNES WESTON), the equally gratifying influence of temperance principles is to be seen.

The medical profession rejoices at the onward march of the temperance movement; how should it be otherwise when the evils to which over-indulgence in alcoholic drink can give rise are so terribly well known to all its members? And in particular we welcome the spirit of scientific investigation which now bids fair to replace the old tactics of the temperance advocates. Let us take, for example, such a contribution to our scientific knowledge of disease as the Norman Kerr lecture, which was delivered on Tuesday evening last in connexion with the Congress by Professor TAAV. LAITINEN of Helsingfors. The brilliant discoveries of bacteriological science within the last few years have revealed to us some part at all events of the varied and complex mechanisms by which the organism defends itself against bacterial attack. The more exact knowledge which we have thus gained of what our predecessors, with a vague but well-founded perception of the truth, described as the *vis medicatrix naturæ*, has provided us with new criteria by which to judge the value of therapeutic agents. It has put it within our power, at least to some extent, to measure the efficacy of treatment in terms of its influence on those protective reactions of the organism which together result in the production of immunity. For obvious reasons these new standards have found their first application in the case of the remedies which have been commonly used in the treatment of infective diseases, and since amongst such remedies alcohol has long held a foremost place it is not surprising that its therapeutic claims should have been specially singled out for investigation by the tests of the bacteriologist. The work which has been done on these lines is already quite considerable in amount, but its results unfortunately are on many points inconclusive and contradictory, so that up to the present it can hardly be held to offer any reliable guidance in practice. The question is thus still at issue, and in view of its obvious importance not only to students of inebriety, but also to medical men in general, and, indeed, we may add to their actual and potential patients as well, any further experimental evidence which may assist us in arriving at a sound conclusion will deserve the fullest and most careful consideration. On this account we direct our readers' attention to Professor LAITINEN'S interesting conclusions, even though we are unable always to see eye to eye with him. Professor LAITINEN'S earlier experiments were designed to ascertain the influence of alcohol in large and in small doses on the susceptibility to bacterial infection in rabbits, and they led him to conclude that the effect of the drug was to weaken the power of resistance to certain specific

organisms and also to increase the susceptibility to the toxins of these organisms. In subsequent researches he satisfied himself that alcohol also lowered the bactericidal power of the blood in animals and that it accelerated hæmolysis. In the investigations which he has since carried out he has endeavoured to test these conclusions clinically by comparing alcohol-drinking and abstinent persons with respect to various points connected with the processes on which immunity depends, and he considers that the results of these further experiments warrant him in affirming that alcohol, even in comparatively small doses, exercises a prejudicial effect on the protective mechanisms of the body. This conclusion, which he has arrived at by the clinico-experimental method in man, is thus in agreement with the inferences which both Professor LAITINEN himself and several other observers had previously drawn from experiments on animals. But, as we have already remarked, the purely experimental evidence has so far given uncertain results, and even where it has appeared to support the thesis of the opponents of alcohol it has been open to serious criticism on points of technique and interpretation.

The difficulties which attend purely experimental investigation are, if anything, more formidable when the subject is approached from a partly clinical point of view. In the first place, in Professor LAITINEN'S experiments the question of dosage is entirely neglected—the term "drinker" is used to mean "a person who has taken alcohol in any quantity whatever." Again, the two categories of persons contrasted, the drinkers and the abstainers, do not appear to have been under otherwise identical conditions, so that differences in reaction to the several tests, which are ascribed to the influence of alcohol, may quite conceivably have been due solely to dissimilarity in age or in mode of life. Such criticisms might, of course, be of relatively slight account if the indications afforded by the experiments were of a very constant and decisive character, but this is far from being the case. With reference to each point considered, the unfavourable influence of alcohol is inferred, not from the observed effect in individual instances, but from a comparison of the average results in a series of cases, and even then the differences relied upon are for the most part quite small. For example, in order to determine the action of alcohol on the hæmolytic power of the serum, the mode of procedure was to let serum from drinkers and abstainers in different dilutions operate upon a 5 per cent. suspension of fresh red corpuscles of the rabbit, and to note the percentage of hæmolysis produced. This was done with 35 abstainers and with 31 drinkers, 11 dilutions being tried in each instance; the average percentages in the two series were then calculated and compared, and the conclusion was drawn that the hæmolytic power of the serum was weakened by alcohol. But when we look at the figures referring to this test we find that the differences between the average results with the several dilutions are quite trivial, and with two of the dilutions are actually favourable to the drinkers; and further that even when the differences are most marked the percentage of hæmolysis in individual abstainers is often below the minimum reached amongst the drinkers. Professor LAITINEN very fairly draws attention to these embarrassing results, which he believes may with most probability be explained by supposing a natural difference in the resisting power of the corpuscles in different rabbits and in the efficacy of the serum in different individuals. The unbiassed critic, studying the actual figures, will probably consider that the same explanation will account also in a quite satisfactory manner for the differences in reaction which it is proposed to set down to the influence of alcohol. But our inability to find in Professor LAITINEN'S latest researches, valuable and interesting as they are, the establishment of the thesis that even in moderate quantities alcohol exercises a deleterious action on the defensive processes of the organism, will not be read by any fair-minded advocates of temperance principles as a defence of the abuse of alcohol.

That the labours of this Congress, which includes representatives from nearly every country of the civilised world, equally appalled by the mischief and misery caused by alcoholism, may bear much fruit is the earnest desire of everyone who wishes well to his fellow men. The ruined homes, the shattered health, the waste of money, and too often the broken hearts, which are the concomitants of drunkenness, are sufficient evidence of the evil which the temperance movement has set out to conquer. We cannot consider the mandate of the Congress to be the fanatical deliverance to perdition of all those who either sell, or consume, or prescribe alcoholic drinks. The rightful use of a gift, which is as much a gift of God as corn or any other fruit of the earth, implies the exercise of self-control, and the great message of the Congress on Alcoholism is that man is lost without self-control. This was the characteristic which made famous two of the great nations of antiquity—the Σωφροσύνη of the Greeks and the Temperantia of the Romans, which, as Cicero said, is "quae in rebus aut expetendis aut fugiendis rationem ut sequamur, monet."

Does Malaria Ever Occur Epidemically Without the Agency of Anophelines?

THE subject of malaria has recently received much attention in our columns, chiefly from the preventive point of view and the best practical measures applicable in places where the disease is prevalent. It is confidently asserted by competent authorities that no fresh malaria infections can occur where anophelines are absent, and consequently that the chief aim should be to destroy, or at any rate greatly reduce, the number of these insects in the locality. A somewhat new aspect of this question has been discussed lately in some recent despatches sent by the Governor of the Seychelles to the Colonial Office relating to an outbreak of malaria which occurred last year in Picard Island, one of the Aldabra group in the Seychelles Archipelago. Through the courtesy of the Secretary of State for the Colonies we have had the opportunity of perusing the despatches, as they were regarded by him as being of some scientific interest to the profession. The story is as follows.

Malaria broke out somewhat suddenly in April, 1908, at

Picard Island, which is situated about 750 miles south-west of Mahé, the chief island of the Seychelles, and cases of the benign tertian type, with a few isolated quotidian, continued to occur up to the end of August—that is, for a period of about five months—during which time practically all the labourers in the settlement had been attacked, but without any fatal results. Owing to the great distance from the headquarters of the Government of the colony and the scanty means of communication, investigation of the epidemic by a member of the medical staff did not take place till mid-September, when Dr. M. S. POWER arrived on the scene. He was able at once, by microscopic examination of the blood of some of the patients who were still ill, to confirm the diagnosis of malaria. The worst cases were sent off by ship to Mahé for hospital treatment, and quinine was systematically administered to the remainder, with the result that the epidemic soon subsided. The outbreak had begun soon after the arrival of a vessel from Manhigo, a French island off Madagascar, where malaria was known to be prevalent. Some of the labourers landed from this ship were at the time suffering from malaria, and within a month the disease had spread to the other workers in the settlement. Careful search was made by Dr. POWER on his arrival for anophelines, but without success, this failure being attributed at the time to the fact that the season was unfavourable, mosquitoes being comparatively scarce during the south-east monsoon. The larvæ of culex and stegomyia were, however, found. Further search for anophelines was carried out by another expert during and after the rainy season, also without success, although the investigation lasted some four or five months. It was therefore concluded that there were no anophelines in Picard Island. The absence of these mosquitoes from the islands of the Seychelles group had already been remarked upon by previous investigators, and it was well recognised that malaria was unknown in the islands except in the form of imported cases from Madagascar, Mauritius, or Zanzibar; none of these instances had ever, so far as is known, given rise to fresh cases. A statement, however, is made by the Governor in one of his despatches, but to which none of the medical officers allude, that he has been informed that in the Aldabra group a fever closely allied to malaria has always existed. Assuming, then, that at Picard Island competent experts had failed to find anophelines, it becomes necessary to seek some explanation as to how malaria could have become epidemic in the absence of these transmitting agents. Up to the present the anopheline is the only kind of mosquito which has been proved to be an efficient host for the malaria parasite, though one eminent authority says that in view of the large number of species of mosquito existing in one or another part of the world it would be rash to assert positively that the anophelines are the only mosquitoes which transmit malaria. It is possible to conceive that other species, such as the culex or stegomyia, which were present on Picard Island might in certain circumstances be able for a short time to aid in spreading the disease, though not acting as hosts for the malaria parasite. A mosquito disturbed while biting a malaria patient might immediately afterwards bite a healthy man and transfer blood containing parasites from one to the other. It is believed that something like this occurs in sleeping sickness, the transmitter of which is the Glossina palpalis. But certain other tsetse-flies, the G. morsitans, for example, although unable to act as hosts for the sleeping sickness parasite, do in certain circumstances, such as interrupted feeding, actually convey the disease from the sick to the healthy. But the transmission of malaria in this way could only be on a small scale, though the conditions usually found in labour camps in the tropics are favourable to the spread of disease by mosquitoes.

A more probable explanation, however, may be found in the fact that anophelines occasionally are able to board vessels in infected ports and to travel considerable distances. In the present instance the ship which arrived at Picard Island carried some persons already suffering from malaria, so that it is possible that even if the anophelines were not at first infected they had opportunity during the voyage to become infected. On the arrival of the ship the anophelines would go ashore and there find ample opportunity for biting and infecting fresh subjects. It is possible, too, that the conditions at Picard Island were not favourable to the multiplication of the anophelines, or that their natural enemies, being in force, waged war upon them so that they were gradually thinned out and had ultimately disappeared by the time that Dr. POWER commenced his investigations. It is unfortunate that the search for anophelines was, for unavoidable reasons, so long postponed. In the circumstances, and considering the evidence available, we think it would not be safe to say positively that malaria spread in Picard Island without the agency of anophelines. Perhaps further information may still be forthcoming to throw more light on this interesting and important question.

Moral Instruction and Training in Schools.

THE question of education is mainly of importance to the medical profession in three respects: (1) physical training; (2) the diseases and defects incidental to childhood; and (3) the prevention of future pathological developments, especially in the direction of nervous disorders. It is recognised that for the complete development of the individual, physical training is of extreme importance, not only as regards its effect upon the growth of the body, but also its beneficial reaction upon the development of the intellect and character. The primary schools are gradually replacing the old Swedish exercises by a modified system more suited to the British temperament than the true Swedish system, which has no apparatus or music. At the present time medical officers of considerable ability are being appointed to inspect the various schools with a view to ascertain the health and physical status of the children. It is expected that they will soon supply important data upon which action can be taken to prevent the physical and mental deterioration which some maintain that the nation is undergoing. The extent of the deterioration has been exaggerated, general inferences having been drawn from abnormal conditions, but tuberculosis is a terrible scourge to the race, and vast benefit will follow in this country upon an inspection of our school children which should discover many chronic diseases, such as tubercle, so that they may be checked in the early stages before irreparable injury has been done.

Perhaps the most important rôle of the physician will lie

in his ability to prevent future disaster to the child by the early inculcation of a sound hygiene in all departments of life. Teacher and physician must work hand-in-hand for the prevention of future disease, especially of nervous disease, that shadow which follows civilisation. In another column we draw attention to the International Inquiry held last autumn in London on Moral Instruction and Training in Schools. All the educational authorities (British, Colonial, European, American, and Japanese) agreed that the question of moral training is the heart of the modern educational problem; without it, education is a peril. The weakening of the older religious beliefs, together with the rapid growth of science in directions which appear to contradict much dogmatic religion, have left the young generation without an anchor, without any definite and whole-hearted purpose for the guidance of daily life. Education which is concerned only with the training of the intellect fails in its highest goal, the formation of character, and the recognition of this fact has already in some countries led to the compulsory training of the teacher in the essentials of the psychology of childhood. The older methods of education neglected to train the child to make full use of his senses. Before abstract intellectual and literary work is undertaken the child should have begun to observe with eyes and ears, to study nature without the medium of books, and to employ his hands. The corresponding parts of the brain develop without the child experiencing any of the irksomeness and pain which in the average human being are associated with the first years of the older educational method, which starts with abstract literary training. Instead, the child of the future will easily and pleasantly acquire habits of observation that will be invaluable to him in adult life. With a similar systematic all-round training throughout school-life he will retain the sensation of well-being and joyous interest and pride in his knowledge that is naturally associated with the activity of a harmoniously developed personality. Education is largely concerned, Professor WILLIAM JAMES tells us, with "the organisation of acquired habits of conduct and tendencies to behaviour." By early and systematic training in good habits, based on sound psychology, the individual can be fitted to cope with the trials of the average life. Habits of daily self-denial in little things keep the character strong for the day when State or family duties require self-sacrifice in a great thing. The child can easily be taught to regard with disgust over-indulgence in food or drink. Healthy habits in diet would lead to a marked decrease in the disorders of the alimentary canal to which is attributable so much of the bad temper, gloom, irritability, quarrelling, and other antisocial qualities which attain so great a mastery over the adult population. Certainly the majority of the highly educated hysterical and neurasthenic patients are the victims of a system of education which has neglected the inculcation of self-control, self-denial, and the habit of taking a healthy, kindly interest in everything and everybody. Highly-strung adolescents of both sexes, finding themselves without enough professional or other occupation completely to fill their waking hours, and unable from lack of training to do anything except read, sink into idle dreaming, thence to years of introspection and fretful complaining, or fall a ready prey to the too prevalent disease of "nerves." No healthy child or adult should know the meaning of the word "boredom": if the whole personality has been harmoniously developed such a condition is impossible. Many of these sufferers can be brought back to physical health and mental and moral happiness by simple training in how to make use of their dormant faculties, physical, intellectual, and moral. But training in good habits is not always enough. Unless the good habits are systematised into a definite whole, are made to correspond to a scheme or purpose in life, they are liable to break down at any time under temptation. Men who live lives of strictest rectitude in their own homes have been known to throw aside all codes of morality when sent to sparsely populated or more lax communities, without considering that they are at all to blame. Authorities in the study of religion and philosophy differ as to the ultimate sanction of morality, whether it is based upon prudential and personal, social or religious considerations. Into this question the average child, and even the average adult, does not inquire; for all practical purposes of useful life it is enough to teach the indisputable fact that humanity most reveres and respects that man whose morality is consistent, irrespective of time or place, whose life is lived ever as in the presence of a great ideal.

Teachers should be selected for their moral tone, rather than for their athletic and scholastic attainments. The normal human child will respond to the stimulus of a noble character; hero-worship is natural and productive of good both to the child and the nation when employed as a means of education. The child may in after years forget the facts acquired by memory, but not the facts which appealed to the imagination and aroused the disinterested emotions of wonder and admiration. History bears out the importance of private virtue as the source of national greatness. Mr. LECKY writes: "If you would form a wise judgment of the future of a nation observe what qualities count for most in public life. Is character becoming of more or less importance? Are the men who obtain the highest posts in the nation men of whom in private life ..... competent judges speak with respect? Are they of sincere convictions, consistent lives, indisputable integrity?" From the point of view of the physician there is no doubt that the man whose life in every daily act as well as on the rare occasions for great deeds, is lived *sub specie æternitatis*, with single-minded reference to an ideal end, is a healthier and happier human being. In the stress of modern civilisation the man who has no unity in his scheme of life and is racked with doubts, the man who frets over trifles and tries with his disjointed and vague philosophy to solve every little point as it arises, whose only measure or ultimate sanction for action is the impulse of the moment—that man is at the mercy of circumstances, his nervous energy is readily exhausted, and he is liable at any time to fall a victim to hypochondriasis, melancholia, or neurasthenia, if not to vice with its attendant evils. It is time to teach the younger generation the great truth that humanity is being driven on an upward path, that the fortunate man is he who early discovers the fact that the Universe is making for good, and that as a consequence virtue is the easier and happier, not

the harder and less attractive way. When this central teaching has filtered down to the people at large, a large majority of the nervous diseases of civilisation will have ceased to exist.

Annotations.

"Ne quid nimis."

HUMAN AND BOVINE TUBERCULOSIS: THE TUBERCULOSIS ORDER OF 1909.

THERE is no longer any serious question amongst persons capable of weighing evidence that bovine tuberculosis is an important source of tuberculosis in the human subject, and more especially is this the case in respect of the tuberculosis of children. As yet even the approximate proportion of the tuberculosis which is due to tuberculous milk cannot be stated. For this we must, it seems, await the next report of the Royal Commission on Tuberculosis. But in the meantime the two Government departments concerned—the Local Government Board and the Board of Agriculture and Fisheries—are agreed that the danger is a real one, and, as a result, we have the Milk Bill of Mr. Burns and the Tuberculosis Order of 1909, this latter, which emanates from the Board of Agriculture and Fisheries, coming into operation probably early next year. This Order, which has been sent to the local authorities in Great Britain under the Diseases of Animals Acts, 1894 to 1903, has been accompanied by a circular letter which possesses the merit of conspicuous lucidity and reasonableness, and this letter is to be followed later by another which is to treat more particularly of points of administrative detail, the present circular dealing only with the broader aspects of the subject. It is in the first place pointed out that were it possible in this country to eradicate tuberculosis from milch cattle a material step forward would be taken in the campaign against the disease in man, but it is quite rightly added that operations aimed at the diminution or eradication of animal tuberculosis must be carried out with due regard to the importance of securing the continuance of an adequate milk-supply and of avoiding disorganisation of the important industry concerned. This is undoubtedly true, and the wholesale and indiscriminate compulsory application of the tuberculin test, which is a measure advocated by some whose administrative genius is not of a discreet order, would be at the present juncture an unwarrantable procedure. The Board of Agriculture and Fisheries has therefore decided that the proceedings shall, in the first place, be limited to the destruction of cows which are suffering from tuberculosis of the udder, which are "emaciated from tuberculosis," or which are proved to be yielding tuberculous milk, all three of which conditions are known to disseminate freely the germs of the disease. But it has also been determined by the provisions of Article 3 of the Order that the veterinary inspector of the local authority will be able, in cases where a suspected bovine animal is in question, to examine other animals which, in his opinion, present clinical symptoms of the disease; and, as regards such animals, he may, but only with the written consent of the owner, apply the tuberculin test. In all cases, too, power is conferred upon the veterinary inspector to take samples of milk, fæces, urine, and abnormal discharges with a view of submitting them to bacteriological examination. From the agricultural point of view, as well as from the standpoint of the administrative success of the Order, the provisions relative to the thorny subject of compensation for compulsory slaughter are the most important. If the animal proves on slaughter not to be tuberculous the compensation to be paid is that of the full value of the animal plus 20*s*., and when tuberculosis is found the degree of compensation is to depend upon the extent and distribution of the tuberculous lesions, the general standard adopted being that proposed by the Royal Commission of 1898, which set out the conditions under which the whole carcasses or only parts thereof were to be seized. Under this arrangement an animal is deemed to have been suffering from "advanced" tuberculosis: (*a*) when there is miliary tuberculosis of both lungs; (*b*) when tuberculous lesions are present on the pleura or peritoneum; (*c*) when tuberculous lesions are present in the muscular system or in the lymphatic glands embedded in or between the muscles; or (*d*) when the carcass is emaciated and tuberculous lesions are present. When, therefore, this technically "advanced" tuberculosis is discovered the local authority has to pay to the owner a sum equal to one-fourth of the value of the animal or the sum of £2, whichever sum is the greater, but after deducting therefrom one-half of the costs of valuation and examination of the carcass. If, however, the examination after slaughter shows that the animal, although tuberculous, was not suffering from "advanced" tuberculosis, the owner is paid a sum equal to three-fourths of the value of the animal less one-half the expenses referred to above. As regards the precautions to be adopted with respect to milk, it is laid down by Article 8 that the milk of any cow which is, or appears to be, suffering from chronic udder disease or emaciation from tuberculosis, shall not be mixed with other milk until such cow has been examined by a veterinary inspector and until the owner has been notified that the provisions of this Article have ceased to apply to the cow. It is further ordered that all milk to which this Article applies shall be boiled or otherwise sterilised, and the utensils which contain it shall be thoroughly cleansed with boiling water. Provision is also made by Article 9 of the Order for the detention and isolation of suspected animals. There are, we imagine, some persons who will disapprove of this Order on the ground that it does not go far enough, that it lacks absolutism, and that it places a heavy financial burden upon the local authorities in the matter of compensation. But while reserving minor detailed criticism for another occasion, we must express our opinion that the measure is a reasonable and statesmanlike provision which goes far to settle a very controversial and difficult subject which has hitherto baffled administrative skill, and we think that all parties concerned will do their best to make the Order a success. It is probable that at first compensation will prove a not inconsiderable drain upon local authorities.

RADIUM IN THE TREATMENT OF FILARIASIS.

THE rôle of radium is steadily increasing in extent. At first it was employed only for superficial forms of carcinoma, such as rodent ulcer; its value then in lupus was recognised. Later it was found that the application of radium was of value in reducing the number of vessels in nævi, and it is being employed with much effect for the cure of birth marks on exposed portions of the body. Though doubt has been thrown on the measure of the selective action of radium, all who have employed it feel that it does affect tissues unequally. In the present number of THE LANCET appears a note by Dr. A. A. Warden of Paris on the employment of radium for the treatment of lymphatic obstruction caused by the presence of filaria nocturna. For the details of the case we refer the reader to the report, but here we may mention that in the axilla and in the neck were masses of enlarged glands, and that filaria nocturna embryos were found in the blood. The enlarged glands were treated by the application

of radium, but all the less penetrating rays were cut off by means of screens of lead and other materials, so that only the more penetrating rays could reach the body. In fact, only the gamma rays and the ultra-penetrating beta rays were really employed. By this method the damage to the skin is avoided. The result was very satisfactory, for the enlarged glands for the most part disappeared. The raised temperature from which the patient was suffering also declined, and therefore it is probable that the radium had an influence on the filariæ. Sir Havelock Charles, who saw the patient both before and after the treatment, agrees that surgical intervention was inadvisable and that the result of the case was most promising for the use of radium. We are probably far from knowing all the possibilities of radium, but it is clear that a weapon of wonderful power has been placed in our hands.

THE RAILWAY CARRIAGE IN HOT WEATHER.

THE policy which decides railway officials to keep an empty train hermetically sealed when it is exposed to the broiling rays of the summer sun often leads to a most uncomfortable state of things for the passenger. It may be assumed that railway companies regard the ingress of dust as a worse evil for future passengers than the raising of the compartment to oven heat. But is it? The fittings of the carriage which has sweltered closed in the full heat rays of the summer sun are damaged, and the glue of the upholstery and framework may be seen melting in the stifling heat. It may readily be imagined what a stimulus to the activity of disease entities such a temperature is likely to give, and the cushions in the carriages of railways afford a peculiarly favourable harbourage for many forms of germs. Besides the objectionable smell of glue from the fittings, the heat draws equally unpleasant odours from the upholstered seats. This is a common experience of passengers at every terminus where in the hot summer days they enter the empty train which has been standing, with all its doors and windows closed, for a prolonged period in a broiling sun. Dust may have been excluded, but the boon is bought at too high a price. It seems to us that the adoption of a frame of gauze in the same passage of the door as the window-frame occupies would be an excellent investment on the part of the railway companies, besides a source of considerable convenience and comfort to the passenger. It would answer the purpose of keeping out gross dust, like soot and cinders, to a very large extent, while it would admit air. It is absurd to use glass as a shield against dust, while it is an effectual barrier to ventilation and a splendid agency for trapping and conserving heat, as is seen in the example of the greenhouse.

ANÆSTHETICS AND THE COIFFURE.

IN his search for an easily drying wash for the hair the hairdresser appears to have been unfortunate as to the fluids which he has so far chosen for the purpose. The process involves the use of a preparation which, in the first place, must readily remove or dissolve greasy matters, and, secondly, which must be volatile in order more quickly to leave (this particularly in the case of women) the hair in a dry state. If we consult the category of articles which possess the dual property of being grease-removing and volatile we encounter at once such substances as ether, petrol, benzine, chloroform, carbon tetrachloride, and so forth. In short, choice has to be made between a fluid which is highly inflammable or which is powerfully anæsthetic. In some cases the volatile substance is both anæsthetic and inflammable and the danger is twofold. Some years ago the light volatile hydrocarbons, of which petrol and benzine are familiar examples, were in considerable use in the hairdressers' shops. Doubtless these are still used, but owing to the number of serious accidents which occurred, chiefly by the vapours of the hydrocarbon getting ignited even by an electric spark generated in the hair itself, or by a flame inadvertently brought near the hair still containing the inflammable fluid, their use became restricted unless very great care was taken to exclude the possibility of ignition. A comparatively non-inflammable yet volatile liquid was next tried, and although this avoided the ignition danger it introduced a new risk inasmuch as the heavy vapours which carbon tetrachloride (the substance referred to) gives off are very decidedly anæsthetic. In these columns some few years back we recorded a fatal case of anæsthesia produced by the use of tetrachloride as a dry hair-wash, and last week a similar case was reported in which it was shown that the same volatile liquid had been used for dry cleansing the hair, with the result that the victim, who, it was stated, suffered from a weak heart, died under the anæsthetic effects of the vapours. It seems to us that if the use of such washes for cleansing the hair is to be allowed at all, the process should be conducted in the presence of a person who has some expert knowledge of the dangerous properties of the cleanser; and it may be a counsel of perfection, but there can be little doubt that in the case just reported the deceased would probably not have lost her life if she had represented first to her medical man the kind of process to which she proposed to have her hair submitted. We doubt whether these dangerous dry hair-washes are necessary at all. Simple soap and water answer the purpose just as well, even with full, long hair, but the water *must be distilled*, and especially the water used for rinsing. A little pure spirit added to the rinsing water expedites the drying process and adds nothing by way of danger. A current of dry air completes the operation.

LONDON WATER.

IN the early part of this month Dr. A. C. Houston presented the third annual report on the London water to the Metropolitan Water Board. An abstract of this report is published elsewhere in these columns. The report shows that during the past year most valuable scientific work has been done continuously on the London water, and Dr. Houston is to be congratulated on the admirable manner in which he has elucidated many difficult points connected with water-supply, storage, and purification, also on the clear and concise manner in which he has presented his results. The purity of the London water is of vital importance to the health of many millions, and it is impossible to exaggerate the immense responsibility resting on those who undertake the task of rendering the raw London waters fit for drinking purposes. It is reassuring to read the reports of Dr. Houston and to learn that the mere fact of storing water before filtration renders it extremely likely that such pathogenic microbes as typhoid and cholera organisms will die in from one to three weeks; also that the combined effects of storage and filtration result in a reduction of over 99 per cent. of the contained bacteria. It must, however, be carefully borne in mind that the source of a great part of the London water is from sewage-polluted rivers. It must also be remembered that in the case of water filtration "the strength of the chain is determined by its weakest link"; thus one faulty filter-bed may lead to a serious pollution of the water supplied, even if many other beds are acting perfectly. Again, as Dr. Houston very fairly points out, it is not safe to argue from the particular to the general in dealing with laboratory experiments; thus it cannot be accepted that it is absolutely certain that cholera and typhoid organisms if contaminating a storage reservoir would be destroyed in three weeks, though they are if added to raw water in the laboratory. The

admirable work which is being done by the Metropolitan Water Board in the purification of the London water, and by the Local Government Board and local authorities in preventing as far as possible the pollution of the rivers from which the bulk of the London water is obtained is vital to the existence of the inhabitants of London.

WOUNDS OF THE DIAPHRAGM.

As the knife is little used as a weapon in this country wounds of the diaphragm are seldom seen by the surgeon. In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of June 27th M. Rabère has reported two cases which present several points of interest. A robust man, aged 29 years, was admitted into hospital an hour after he had been stabbed in the left side of the chest. In the eighth intercostal space and anterior axillary line was a wound three or four centimetres long running obliquely downwards and forwards, from which projected a piece of omentum about ten centimetres long. The patient showed no signs of shock but was excited by alcohol, in which he had been indulging. The respiration was a little panting, but the pulse was strong and regular. The respiratory murmur was weak on the left side, which the patient instinctively immobilised. There were no signs of hæmothorax or of internal hæmorrhage, and no external hæmorrhage or hæmoptysis. The abdomen was supple and showed neither pain nor area of dulness. Under chloroform ten centimetres of the rib below the wound were resected and the underlying pleura was incised. As a result, the omentum, which was strangulated in the wound, was liberated. The omentum formed a guide to the wound in the diaphragm, the upper edge of which wound was seized with forceps and dragged out. This manœuvre tended to prevent the production of pneumothorax. There was no hæmorrhage into the costo-diaphragmatic sinus, which, with the absence of hæmoptysis, indicated that the lung was not wounded. The diaphragmatic wound was slightly enlarged in a forward direction and its upper edge was united to the upper edge of the thoracic wound by two catgut sutures. The herniated omentum was resected, the stump was reduced, and the upper abdominal viscera—spleen, transverse colon, and anterior and posterior walls of the stomach—were explored. There were some clots in the vault of the diaphragm. Minute examination showed that the hæmorrhage was due to wound of an artery in the omentum. This artery was ligatured, the clots were removed, the wound in the diaphragm was sutured with catgut, a drainage-tube was inserted between the diaphragm and the chest wall and the external wound was sutured. Recovery was uninterrupted; some serous fluid escaped from the tube for a few days. The patient got up on the twelfth day, when all that could be detected was some pleural friction. In the second case the wound was exactly in the same place as in the previous case, but there were hæmorrhage in gushes during expiration, hæmo-pneumothorax, abundant hæmoptysis, and signs of severe internal hæmorrhage. Thoracotomy was performed, a flap containing portions of the seventh, eighth, and ninth ribs being raised. A wound of the diaphragm was found through which the left angle of the colon had passed. After reduction of the hernia, rapid examination of the spleen and stomach, and suture of the diaphragm, the lung was explored and a long and deep wound was found in it and sutured with catgut. The pleural cavity contained a large quantity of blood, which was evacuated. The flap was replaced and sutured. The patient died soon after the operation. The necropsy showed that there were no other lesions than those found at the operation. Omental hernia is a frequent sign of wound of the diaphragm. Its mechanism is easy to comprehend; during expiration the diaphragm is in contact with the lateral thoracic wall, and the omentum passes through the parietal and diaphragmatic wounds as if they were one. Wound of the diaphragm indicates immediate operation, for in consequence of thoracic aspiration abdominal viscera readily pass into the pleural cavity, become strangulated, and press on the heart and lungs. Another reason is the possibility of wound of the spleen, stomach, intestine, and liver, or large vessels. Some surgeons have operated by the abdominal route. Lenormant has reported eight cases thus treated, with five deaths. But by this method it is difficult to reach the wounded viscera and, above all, to suture the diaphragm, as the stomach and colon always form obstructions. Continental surgeons are almost agreed that the thoracic route is the best. Lenormant has reported 23 cases in which this was followed with three deaths. It has been objected that in this method pneumothorax may be induced. But many surgeons do not consider it of importance; it may sometimes be easily prevented, as in the first case reported above; and it sometimes already exists, as in the second case.

THE RELATIONSHIP OF THE OPTIC NERVE TO THE SPHENOIDAL SINUS.

DURING recent years it has become more and more apparent that inflammation of the optic nerve and of the deeper structures of the orbit is frequently to be traced to a primary infection of the accessory sinuses of the nasal cavity, especially to the deeply placed and imperfectly known sphenoidal sinuses. Unfortunately these spaces are rarely examined in the usual routine of the post-mortem room, but such records as are available indicate that 30 per cent. of all subjects show disease of the accessory sinuses, the sphenoidal being affected in about 15 per cent. Onodi has shown how closely the sphenoidal and posterior ethmoidal cells abut on the optic nerve. In a paper read before the American Academy of Ophthalmology and Otolaryngology, Cleveland, in September, 1908, and now republished in the report of the Laboratories (Medical Department) of the University of Buffalo, Dr. L. M. Francis and Professor J. A. Gibson record a number of observations on the thickness of the bony partition between the optic nerve and sphenoidal sinus. In a series of 60 skulls they found this to measure 1-100th of an inch or less in 20, 1-50th inch or less in 18, 1-25th inch or less in 10, 1-12th inch or *more* in 12. They also mention the close relationship that exists between the sheath of the optic nerve and the lining membrane of the sinus, so that it is not too much to say that the optic nerve, in the majority of human subjects, lies in the wall of the sphenoidal sinus and is liable to become affected in all the diseases of that sinus. Professor Gibson found that the average distance of the sphenoidal sinus from the nasal spine in the skulls he examined (85 in number) was 57 millimetres, and that in 17 per cent. there was a diverticulum of the sinus which extended into the wall of the orbit. Apparently the nasal cavities are of a greater depth in English subjects, for in a series of observations published some time ago by Mr. H. Tilley, the average distance of the sphenoidal sinus from the naso-labial margin is given as 82 millimetres in the male and 76 millimetres in the female subject.

THE REMOVAL OF KING'S COLLEGE HOSPITAL.

ON July 20th the King, in the company of the Queen and of Princess Victoria, gave another proof of the interest which he takes in the welfare of the sick poor by laying the foundation-stone of the new buildings of King's College Hospital which are to be erected by Mr. W. A. Pite, F.R.I.B.A., facing Bessemer-road at Denmark Hill, and which are to form the new home of the charity that has existed for 70 years in the Strand district. A guard of honour was

furnished by the University of London contingent of the Officers' Training Corps. The Hon. W. F. D. Smith, M.P., chairman of the committee, and the generous donor of the 12 acres of land on which the new hospital will stand, presented an address to His Majesty, stating that 600 beds will be accommodated in the new building, which will also have the advantage of a people's park of 30 acres adjoining its south side. The approval of the King Edward's Hospital Fund for the removal scheme had been shown by a gift of £27,000. His Majesty, replying in his usual felicitous terms, fully endorsed the action of the Fund associated with his name. "Your committee's decision to abandon the old building," he said, "and to remove the scene of your labours to a poorer and more populous district, where the need for a hospital was great and the field for its work wide, was a bold step, but I believe it was a wise and right one, and I congratulate the medical and nursing staff on the great opportunity thus given them for increased usefulness. The generous response made to the committee's appeal for funds shows how their decision has been appreciated by the public." He recalled with gratitude the past work of the hospital and mentioned with honour the great career of Lord Lister within its walls, "who, in introducing the antiseptic methods in surgery, rendered an inestimable service to England and to all mankind." After commending the financial needs of the hospital to the benevolent, His Majesty concluded his speech with these words: "I assure you of my continued interest in your hospital and of the sympathy with which I shall watch its future progress. I cannot doubt that the blessing of Almighty God will attend the work to be done by it in its new home." The King then laid the foundation-stone and the Benediction was pronounced by the Bishop of Southwark, the ceremony concluding with a number of presentations to His Majesty. The committee of King's College Hospital is to be warmly congratulated on having passed such an important milestone on the path of its long and anxious labours, and we cannot doubt of the wisdom of the steps it has taken. The removal of the hospital will not only be the means of rendering its benefits easily accessible to a far larger poor population than it serves conveniently at present, but the extension of its beds will form a noteworthy addition to the already unrivalled field of clinical opportunities at the disposal of the London student. This educational function of a general hospital had always been kept in mind by the governing body of King's, which, indeed, was founded by the council of King's College with that end chiefly in view, as witness the following extract from the council's minute book for 1839: "The council of King's College, finding that hospital practice in connexion with and in the vicinity of the said college was indispensable for the complete education of its medical students, did, in the year 1839, take measures for the formation, in the parish of St. Clement Danes, in the county of Middlesex, of a public hospital for the relief of poor, sick, and infirm persons, to be supported by voluntary contributions, and to which the students of medicine and surgery belonging to the said college might, under proper regulations, for ever have access." These objects have not been forgotten, and those who support liberally the appeal for a further sum of £75,000 which the committee is now making will not only assist a worthy charity but will be forwarding the interests of an important school of medicine of the University of London.

ASYLUM OFFICERS' SUPERANNUATION BILL.

THE Asylum Officers' Superannuation Bill has passed its second reading in the House of Commons and is now before a Select Committee. In the present condition of public business in the House it seems little likely that the Bill will become law, and only too probable that this useful reform will be indefinitely postponed. The object of the Bill is to impose an obligation upon asylum authorities to grant superannuation allowances to their officers and servants upon a fixed scale. At present the granting of such allowances is discretionary, and though widely practised it is felt by those concerned that it would distinctly improve the status of asylum workers and attract the right sort of individual to the service of the insane if the grants were not at discretion but of statutory obligation. By the provisions of the Bill the amounts of the grants will differ according to the nature of the employment and the period of approved service, while provision is made for contributions from officers and servants. The supporters of the Bill are of opinion that no additional burden will be put upon the rates, and indeed that the system of contribution will materially reduce the expenditure upon pensions. The Bill was referred to at the eleventh annual meeting of the Asylum Workers' Association which was held on July 14th, and at which Sir William Collins, who was in the chair, was re-elected President of the Association. In moving the adoption of the report he expressed himself strongly in favour of the Bill, which was supported even more strongly by his seconder, Mr. C. Roberts, M.P., an honorary Commissioner in Lunacy, who said that the whole of the Lunacy Commission was in favour of its adoption. A Bill that at once confers a boon upon a highly deserving class and is likely to reduce the rates appears to us one worthy of high commendation, and we hope that a few minutes of the public time may be spared to effect the passage of so excellent a measure.

A CERTIFICATE OF THE CAUSE OF DEATH FOLLOWED BY AN INQUEST.

A DISCUSSION of an unusual kind has taken place at Newcastle-upon-Tyne between a medical practitioner and a coroner, and has been accorded publicity by the local newspapers. Dr. F. C. Coley was consulted by a man, aged 70 years, a builder by trade, who described his symptoms to him and submitted himself to examination. Dr. Coley saw his patient twice during a period of 12 months, the last occasion being on May 28th, and formed the opinion that he had suffered from mild attacks of angina pectoris. On June 28th the relatives informed the medical man that his patient had been found dead in his bed, adding particulars to the effect that he had been fatigued on the previous day and had had to hurry to catch a train. In these circumstances Dr. Coley gave a certificate assigning angina pectoris as the cause of death. The attention of the coroner was called to the case, and he decided to hold an inquest, being apparently of the opinion that owing to the interval of a month which had elapsed since the last visit to the medical man a certificate ought not to have been granted. At the inquest Dr. W. F. Wilson, who had made a post-mortem examination, expressed the opinion that death was due to "heart failure brought on by heart disease," and the jury returned a verdict of "Death from heart failure," further expressing the opinion that Dr. Coley was not justified in giving a certificate of the cause of death in the circumstances. It is hardly necessary to point out that Dr. Coley was perfectly within his rights in giving a certificate if the conditions described to him under which his patient died coincided with the state of his health observed a month before, and that the blame which the coroner allowed the jury to impute was quite undeserved. The case is unusual because the far more frequent cause of complaint against medical men arises out of the withholding of certificates which cannot conscientiously be granted, but which in the opinion of the coroner or the jury would save the necessity of an inquest.

It is a matter of regret that the coroner at Newcastle-upon-Tyne should have allowed the jury to append the rider to their verdict, although in holding an inquest he acted with perfect propriety if he considered that there was reason to suspect the death to be a sudden one of which the cause was unknown. Possibly he would not have held it if he had first consulted the medical man. By doing so he would, no doubt, have obtained information which would have explained the case, but which would have been out of place in the death certificate. The circumstances, however, are peculiar, as generally a death certificate cannot be safely given by a medical man when some time has elapsed since the deceased was last seen professionally.

THE STATE OF BRENTFORD HIGH STREET.

WE have received the first number of the *West London Illustrated Advertiser*, an enterprising little paper devoted to the affairs of the western suburbs, and we have had our attention specially called to an article concerning the state of Brentford High-street under the heading "A National Disgrace." We are able to endorse this estimate of an important road, which is one of the main arteries of traffic out of London. The article in question contains reproductions of photographs showing the intolerable state of congestion which is a daily, almost an hourly, occurrence in the long and narrow High-street that forms the chief feature of Brentford town. They show a confusion of vans, motor-cars, private carriages, and electric tram-cars, which utterly defies the authority of the policeman's regulating arm, and which, in the event of any circumstance that may attract an extraordinary amount of traffic, renders the road nearly impassable. The street had always been a bad one, but since the electric cars have monopolised the greater part of its surface it has become a grave danger to the foot passenger who has to cross it, and since it gives access to the Staines and Windsor district it interferes with the comfort and safety of many cyclists. There is, moreover, a considerable risk of damage to any private motor-car or carriage that may become involved in the *melée* that nominally exists. But perhaps the most serious danger to the public during these continual *impasses* is that of fire, for if the services of the fire-brigade should be needed in the High-street no engine could make its way through such a block. The *West London Illustrated Advertiser* has done a good service in calling attention to the existing state of affairs in so graphic a manner. We learn that the people of Brentford met five years ago to discuss a remedy, and it is certainly high time that they found one.

THE GEOGRAPHICAL DISTRIBUTION OF DIABETES MELLITUS.

IN an interesting paper by Dr. R. T. Williamson, of which we have received a reprint, published in the *Medical Chronicle* for July, some noteworthy conclusions are arrived at as a result of the study of statistics of diabetes in various parts of the world. The mortality from diabetes has increased markedly in England during the last 30 years—in 1866 it was 32 per million living; in 1886, 59; and in 1906, 97. The increase in mortality has been greater among women. In Oxfordshire the mortality appears to be a little higher than for the country generally. In Scotland and Ireland the mortality is less than in England, but the rate in Edinburgh is higher than in London, while that in Dublin is considerably lower. In some parts of the world the mortality from diabetes is much greater than in England—e.g., in Malta, where it reaches 37·8 per 100,000, compared with 9·6 in England and Wales. In many of the large towns of the United States of America—viz., Worcester, Syracuse, Rochester, New York, Boston, and Washington, in Bordeaux, Paris, Berlin, and Frankfort-on-the-Main the mortality from this disease is very considerable. It is also said to be specially common in Bengal, Ceylon, Siam, and Tunis. Certain races appear specially liable to suffer, notably Jews, Hindus, and Maltese; on the other hand, the Chinese who adhere to their native diet and modes of life rarely suffer. In regard to the Jews, the statistics of Budapest, 23·5 per cent. of the population of which are Jews, show that in 1906 53·6 per cent. of the deaths from diabetes occurred among them, or, expressed in another form, six deaths from diabetes occurred amongst the Jews to every one death from this disease amongst those of other faiths. In Frankfort-on-the-Main a similar preponderance of diabetes amongst the Jews is said to occur. It is chiefly among the Jews who are wealthy or in good circumstances and among those who are stout or well nourished that the disease occurs, but not exclusively. Negroes suffer less frequently than the white races. In Australia the mortality is greatest in the colony of Victoria, where it is 11 per 100,000; in New South Wales it is much less. Dr. Williamson gives many other interesting statistics of the disease in various parts of the world, and in reviewing them points out that they suggest various questions—as to the part played in the production of this increase in the disease and its mortality by the great mental strain of modern life, and the consumption of excessive quantities of sugar, sweet foods, wines, and alcoholic or temperance beers. He also asks if the use of beet sugar instead of cane sugar may be a factor, since the manufacture of beet sugar has increased enormously during recent years. He admits that these questions cannot be answered at the present time, but expresses the hope that his paper may lead to the collection and publication of information likely to throw light on these matters by those with special opportunities of observing the disease, such as British medical men practising in foreign lands and distant colonies.

ANGINA PECTORIS.

WE have received a *brochure* on angina pectoris from Dr. H. Walter Verdon. After a discussion of the innervation of the heart and blood-vessels, he arrives at the conclusion that whereas under the influence of increased pressure the cardiac muscle becomes hypertrophic and the muscles of the arterioles retain their power, the muscular tissue of the aorta suffers degenerative change and loss of its reserve force. As a result of prolonged increase of pressure a stage "is reached when vaso-constriction in the cephalo-enteric region, accompanied by an excursion of blood pressure above the standard scale normal to the individual, results in strain of aortic muscle." This strain is regarded as acting upon the endings of antidromic nerves, resulting in the production of anginal pain. The strain is regarded as the effect of a disturbance in the ratio normally existing between the lateral pressure of the blood-stream and the "resistile" capacity of the arterial wall, and therefore the relative pressure rather than the actual height of pressure is the determining factor. Dr. Verdon recognises two distinct classes of cases: one in which arterio-sclerosis of the visceral stream bed exists, constituting the organic type; the other, in which there is no organic disease but disturbances of the nerve centres controlling the calibre of the vessels, leading to more or less maintained elevation of blood-vessels, the functional type. This latter type is said to be always associated with, and to result from, chronic acid dyspepsia. In the treatment of this class of case an "all-meat" dietary is advised; in other words, the exclusion of sugars and starches. In conjunction with this diet, iodide of potassium is recommended, taken in small doses over long periods. The "all-meat" dietary is justified

on the grounds that it prevents fermentation processes in the stomach, thus lessening the formation of abnormal acids and gases and leading to earlier evacuation of the gastric contents into the duodenum, and that in patients with adipose deposit it reduces this and improves the action of the heart. The objection that in gouty patients it may lead to an exacerbation of the disease is said by Dr. Verdon to be negatived by experience. Dr. Verdon's conclusions, as well as his recommendations, are open to criticism. Impressed by Nothnagel's discovery of the vaso-motor factor in angina pectoris, he proceeds to develop this to the entire exclusion of any cardiac factor, the coronary changes and the changes in the cardiac walls being regarded as secondary or associated phenomena, in order that the organic and the functional forms may be given a common explanation. He also makes the gratuitous statement that hyperacidity of the stomach is the result of biochemical changes taking place in ingested foodstuffs, and not to an increase of the normal secretion of the gastric glands, a statement diametrically opposed to the true nature of hyperchlorhydria. Again, although in some cases of hyperacidity a meat diet may temporarily give relief, it should by no means be given as a routine, and particularly in cases of angina pectoris, even if they are apparently of functional character, since an excessive protein intake is certainly an important factor in the production of arterio-sclerosis.

THE RETIREMENT OF THE REGISTRAR-GENERAL.

ON July 20th a meeting of the staff of the General Register Office was held at Somerset House for the purpose of making a presentation to Sir William Dunbar on his retirement from the Civil Service. A handsome silver loving cup, the work of Messrs. Elkington, was presented to Sir William Dunbar, bearing the following inscription: "Presented to Sir William Cospatrick Dunbar, Bart., on his retirement from the office of Registrar-General, on the 20th July, 1909, by the staff over whom he has presided for seven years—in token of their gratitude to him as a chief and their esteem for him as a friend." The presentation was made by Mr. A. C. Waters, the chief clerk, on behalf of the entire staff of the office and was suitably acknowledged by the Registrar-General, who subsequently bade farewell to his department in a few appropriate words. Sir William Dunbar is succeeded in his office by Mr. Bernard Mallet, a Commissioner of Inland Revenue, who, we believe, will enter upon his new duties forthwith.

THE TRAFFIC IN OLD AND DISEASED HORSES.

THE traffic in worn-out horses, which we have so often had occasion to condemn as abominably cruel, is also not without its dangers to the public health, and a peculiarly flagrant case of disregard of such dangers was recorded in the *Times* of July 15th. A horse-dealer in Islington was summoned before Sir John Pound at the Mansion House and charged with causing a diseased horse to be led along Lower Thames-street contrary to the Glanders or Farcy Order, 1894. Mr. Vickery, the assistant city solicitor, said that the horse was in such an advanced state of disease that its passage through the streets was fraught with great danger. It was stated that the animal was being taken for shipment to Holland. The defendant pleaded guilty, but said he did not know at the time that the animal had glanders. He was fined £20 with 3 guineas costs, with the alternative of a month's imprisonment. The possibilities of infection with which the journey of that glandered horse are fraught are almost appalling to contemplate. If it had escaped the vigilance of the authorities the stable from which it came might have been the means of infecting other animals. During its journey through the busy streets of London it might have caused infection of some passer-by over whom it coughed, or a spray of mucus from its nostrils might have communicated the disease to other horses. The ship by which it was conveyed to Holland would also have been possibly the means of spreading the disease, while on its arrival, if it survived the journey the unfortunate animal would presumably have been used for food for other animals or even for man, The cruelties entailed by this discreditable traffic have been often enough exposed, and some shipping companies, we are informed, refuse to carry these animals, but this case seems to emphasise the undesirable character of the whole matter and to show that it possesses dangers as well as disgusting features. The penalty inflicted by the learned magistrate did not err on the side of severity, for such callous disregard of the public safety deserves imprisonment without the option of a fine.

THE Home Secretary has appointed a departmental committee, under the chairmanship of Mr. J. A. Simon, K.C., M.P., to inquire into the operation of the Employment of Children Act, 1903, and to consider whether any, and what, further legislative regulation or restriction is required in respect to street trading and other employments dealt with in that Act.

THE Governor of Hong-Kong has reported 4 cases of plague with 2 deaths during the week ending July 10th, and 2 cases and 6 deaths during the week ending July 17th. A telegram from the Governor of Mauritius to the Secretary of State for the Colonies reported 1 case of plague and 1 death during the week ending July 15th.

Mr. Henry Alexis Thomson has been appointed to the Chair of Surgery in the University of Edinburgh.

LITERARY INTELLIGENCE.—Mr. Edward Arnold will issue a new edition of Dr. T. D. Savill's "System of Medicine" on Sept. 1st. The author has revised the work throughout, and in its new form it will be bound in one volume.

PROPOSED PAYMENT TO HOSPITALS BY THE LONDON COUNTY COUNCIL.—The London County Council on July 20th considered a recommendation by the general purposes committee that authority be sought next session to contribute to the funds of hospitals and similar institutions at which employees to the Council receive treatment for injuries sustained in the course of their employment. The committee learns that the Admiralty makes such contributions, but the County Council has had to refuse applications for grants in similar circumstances, although if the employé were treated privately the Council would probably have to pay. It might also happen that the Council would desire to subscribe to convalescent homes where workmen and others of very limited means may be sent with a view to their complete recovery from illness. At present tickets and letters are obtained from private persons, and the opinion has been expressed that the Council should not have to rely on private charity in that way. The authority sought should therefore cover contributions to such institutions. As regards the maximum amount to be contributed in any one year, the committee have ascertained that the Kingston-upon-Hull corporation and Stratford urban council have obtained powers to expend annually for this purpose sums not exceeding £200 and £100 respectively. Having regard to the large number of employees in the Council's service and the hazardous nature of the occupations of many of them, it is suggested that the maximum payment should be fixed at £500 per annum, the contributions to any one institution being based on the average cost per case of the patients received in the preceding year. The Council adopted the committee's recommendation.

THE METROPOLITAN WATER-SUPPLY.

REPORT ON CHEMICAL AND BACTERIOLOGICAL EXAMINATIONS FOR THE YEAR ENDING MARCH 31ST, 1909.

AN exhaustive report on the results of the chemical and bacteriological examination of the London waters for the 12 months ending March 31st, 1909, has been drawn up by Dr. A. C. Houston, director of water examination, Metropolitan Water Board, and was presented at a meeting of the Board on July 2nd.

The report is a very detailed one, and contains a great number of carefully tabulated analyses in addition to an admirable summary of these results and carefully drawn-up conclusions. The following is an abstract of the more important points contained in it.

I.—*Meteorological Notes.*

Meteorological notes, by Dr. H. R. Mill, are recorded, and the relationship of the rainfall and general meteorological conditions of the different months in the year to the average daily flow of the river Thames and the bacteriological condition of the raw Thames water is illustrated by a table drawn up by Dr. Houston. March and April were the two months of highest rainfall, and they were the months in which the number of bacteria per cubic centimetre of raw Thames water far exceeded the figures for the other months. Dr. Houston points out that meteorological records are indispensable not only for calculating the potential supply of water but also on account of the important light they throw on the seasonable variations in the physical, chemical, and bacteriological qualities of the water. He makes the very important statement that in his view unfavourable meteorological conditions should not afford justification for delivery into supply of imperfectly purified water.

II.—*Statistics of Supply.*

Dr. Houston adds a note of caution to the way in which these figures should be interpreted. There must be adequate storage capacity in the reservoirs both before and after filtration. If there is inadequate service reservoir capacity he points out the great liability there may be of too rapid filtration which, of course, involves the danger of imperfect bacteriological purification. Also it is pointed out that in considering the rate of filtration one must look not to the total rate for a number of beds but to the rate of filtration of each individual bed. One filter bed in which the rate of filtration was too rapid might lead to the pollution of the water from a number of other beds which were working satisfactorily at a proper rate.

III.—*Effect of Storage.*

A very interesting part of the report is the important light thrown on the enormous value of storage of water before filtration. It is stated that in relation to danger to health over-storage is believed to be impossible, and that it is desirable to store a water before filtration for as long a time as it is economically possible. The storage of water may lead to inconvenience in filtration from the overgrowth of algæ and other vegetable growths, since the beds become blocked by the vegetable blanket which forms on the surface of the sand in the filters. This difficulty has been overcome in various ways; thus in 1908 the addition of minute amounts of copper sulphate had a great retarding effect on vegetable growth in the water stored. Also, it has been found that the mixture of a certain amount of unstored river water with stored water prolonged the life of a filter-bed to a great extent. Dr. Houston gives 20 conclusions as to storage, all of which go to show the great value of this process in the purification of water. One of these is very striking: "The use of stored water goes far to wipe out the gravity of the charge that the chief sources of London's water-supply are from sewage-polluted rivers."

IV.—*Research Work.*

Dr. Houston rightly insists that routine work systematically conducted in the Board's laboratories is very important research. During the year special researches have been carried out thus: A first research report has been published showing that if living typhoid bacilli are kept in raw Thames, Lea, and New River water 99·9 per cent. perish within one week. This result proves that the advantages accruing from even a few days' storage are so great that there is no justification for the use for filtration purposes of raw unstored river water. A second research report involved a special search for the typhoid bacillus in samples (collected weekly) of raw Thames, Lea, and New River water. These results were negative, but Dr. Houston adds that negative results of this kind cannot be regarded as absolutely conclusive. A special research report on the Vitality of the Cholera Vibrio in Raw River Water is published and is dealt with below.

V.—*Bacteriological Results.*

Raw water.—The averages for the 12 months were as follows:—Raw Thames water, 2558 microbes per cubic centimetre: highest 8072, March; lowest 1107, July and February. Raw Lea water, 8794 per cubic centimetre: highest 38,469, March; lowest 1706, November. Raw New River water, 1118 per cubic centimetre: highest 3566, March; lowest 233, April. The worst month in each instance was March. Dr. Houston states that in a gravitation scheme with a superabundant source of supply and huge storage reservoirs the amount abstracted for storage purposes should be inversely proportional to the current impurity of the water. In the circumstances pertaining to the London supply this is only possible in a partial sense, but attention must again be drawn to the fact that the amount of river water abstracted during the months when the river contains an excessive number of bacteria is so large as to emphasise the desirability of passing it through storage reservoirs antecedent to its filtration.

A table is contained in the report showing for the Thames and Lea waters the average number of bacteria per cubic centimetre in the raw water for each month of the year and the average daily quantity of water abstracted for waterworks purposes. The table shows that in the months of March and April where the bacterial figures are very high the abstraction figures by no means follow the desirable rule of being inversely proportional to the bacterial impurity.

Filtered water (including Kent and Lea Valley unfiltered water).—The following statement indicates that the exclusive (i.e., exclusive of samples containing 100 or more microbes per cubic centimetre) figures for the filtered waters were small, and the percentage reduction effected by the processes of subsidence and filtration remarkably good as is shown below:—

—	Thames.	Lea.	New River.
Raw water (microbes per c.c.)	2558	8794	1118
Filtered water (microbes per c.c.)	11·3	18·9	6·1
Percentage reduction (microbes per c.c.)	99·6	99·8	99·4

Too much stress, it is added, must not be laid on percentage reduction of microbes. The worse the raw water, the easier it is to obtain a final filtrate yielding satisfactory results on the basis of percentage purification. The order of merit based on the exclusive figures for the filtered waters is as follows:—

	Average number of microbes per c.c.		Average number of microbes per c.c.
Kent	5·3	West Middlesex	12·3
New River	6·1	Chelsea	14·6
Lambeth	7·0	East London (Thames)...	17·6
Southwark and Vauxhall	9·3	East London (Lea)... ...	18·9
Grand Junction	9·9	Kempton Park	19·7

Tests for Special Organisms.

Bacillus enteritidis sporogenes.—

Raw waters.—40·3; 59·6; 82·6 per cent. of the samples of New River, Thames, and Lea water respectively yielded positive results with 100 cubic centimetres of the water.

Filtered waters.—Only 3 per cent. of the samples of filtered waters yielded positive results with 100 cubic centimetres of water. Dr. Houston points out that negative results do not necessarily imply safety as regards the particular organism examined.

Typical bacillus coli tests.—

Raw water.—The results, judged by this test, were unsatisfactory, having regard to the fact that the rivers Thames and Lea are known to be seriously polluted with sewage and

that there is every reason to suppose that the majority of the bacilli coli found in the raw waters are of human excremental origin. The average numbers of typical bacilli coli per cubic centimetre were calculated as follows: river Thames, 15; river Lea, 25; and New River, 1.

Filtered waters.—The following table shows the average number of typical bacilli coli per 1000 cubic centimetres of filtered water:—

	Typical B. coli per 1000 c.c of water.
Kempton Park	1
Kent, Chelsea, East London (Lea), New River, Lambeth, Grand Junction	2
West Middlesex, Southwark and Vauxhall	3
East London (Thames)	137
Lea derived water, New River derived water	2
Thames derived waters	3
All London waters	2

Dr. Houston adds that without pushing these figures too far it may be said that, taking the London waters as a whole, the improvement effected by subsidence and filtration was 6850 times.

VI.—*Chemical Results.*

The results of periodical analyses of the various raw and filtered waters are carefully tabulated for each month. The purifying effect of subsidence and filtration is well shown by the figures given for the albuminoid nitrogen test and for the oxygen absorbed from permanganate. In each case the figures for the filtered waters are less than half those of the raw waters. The differences between the chemical analyses of raw and filtered waters are, of course, much less striking than the remarkable differences between the bacterial figures given for these two classes of water, the reason being that the chemical impurities are in solution.

Dr. Houston draws the following conclusions from the results of the various investigations made during the year:—

Conclusions.

Raw Water.

1. The unsatisfactory quality of the raw waters, particularly during the winter months.
2. The importance of judicious selection of raw water for waterworks purposes.
3. The doubt whether the raw waters, even during the best months of the year, are sufficiently free from impurities to be filtered without antecedent storage.
4. The importance of possessing as full knowledge as possible of the multiple pollutions of the rivers Thames and Lea.

Storage.

5. The unequal, and in some cases inadequate, duration of storage in connexion with the Board's different works.
6. The difference between "active and passive storage," and the great importance of active storage from the epidemiological point of view.

Filtration.

7. The unequal, and in some cases too rapid, rate of filtration at the different works.

Service Reservoirs.

8. The small size of the service reservoirs leading in some cases to variable rates of filtration during the 24 hours.

Filtered Water.

9. The variable and in some cases not altogether satisfactory quality of the water as delivered to the consumers from the different works, and the general deterioration in the results during the winter months of the year.
10. The remarkable percentage improvement in the quality of the raw water effected by the processes of storage and filtration.
11. The satisfactory quality, generally speaking, of the metropolitan water-supply as judged by average results, and more particularly by the results obtained during the summer months of the year.
12. The importance of bringing the worst results more closely into agreement with the best results by endeavouring to reduce the manifold pollutions of the rivers Thames and Lea, by judicious selection of raw water for waterworks purposes, by the active utilisation of storage reservoirs, and by proved slow filtration at a uniform rate, through sand of sufficient fineness and depth.
13. Eighteen experiments have been carried out on the longevity of the typhoid bacillus in samples of *raw* Thames, Lea, and New River water, and the results showed that in practically all the experiments over 99 per cent. of the typhoid bacilli artificially added to the experimental water died within one week. Nevertheless, in the majority of the experiments a very few of the typhoid bacilli remained alive for one or two months (see First Report on Research Work). A report on the vitality of the cholera vibrio in *raw* river water will be published at the same time as this report. The results show that the cholera vibrio dies more quickly than the typhoid bacillus in water. The obvious conclusion is that, whilst it may be difficult to store raw river water for such a length of time that, even if the river water did initially contain typhoid bacilli, their death would be absolutely certain to take place, there is no difficulty in storing it sufficiently long to reduce enormously any element of danger likely to arise from this cause; hence the extreme undesirability of ever using unstored raw river water for filtration purposes.
14. The results of the examination of river water antecedent and subsequent to storage, carried out during the last 20 months, clearly prove that, apart from the question of algal growths, the advantages to be gained by adequate storage are of a general and material kind, and are not limited merely to the elimination of pathogenic bacteria.
15. It is now possible to judge by comparatively simple tests and with reasonable accuracy, whether *raw* river water has been stored for a length of time, sufficing to ensure destruction of all (or nearly all) typhoid bacilli (and inferentially also of other microbes, causing water-borne disease) if these happened to be present originally in the water. This distinctive and valuable knowledge is arrived at by correlating the results of tests dealing with the longevity of the typhoid bacillus in raw river water, with those showing the length of time that raw river water must be stored before it exhibits certain changes in its original composition. Hence a new factor has arisen in the work of examining the London waters, which is believed to be of primary importance. Briefly, dependence is now being placed more and more on experimental proof that the water reaching the filter beds, as the result of adequate storage, is in a reasonably "safe" condition *antecedent* to filtration.
16. Certain recent investigations tend to make one look with rather less disfavour than previously on the present sources of water-supply.

In the first place the extreme difficulty experienced in isolating *faecal* streptococci from one cubic centimetre of the raw waters is a point in their favour (see pp. 12-14, December, 1908, Report). Secondly, the fact that no typhoid bacilli have been found in the raw waters despite the use for a period of 12 months of the most recent and searching tests for this microbe, is a matter worth noting (see Second Report on Research Work). Negative evidence, however, in experiments of this kind, is apt to be unconvincing; still, it can be said with confidence that the nature of the negative evidence which has been accumulated is of a much less inconclusive character than any previously brought forward.

These remarks, however, must not be read as implying that any relaxation in the existing processes of purification of the river water by means of storage and filtration, is justifiable.

17. Lastly, it needs to be remembered that it is not only necessary to reduce the pollutions of the rivers Thames and Lea and to store, as well as to filter, the raw water in a satisfactory manner. It is also necessary to guard against the possibility of *accident*. In this connexion questions of drainage, health of workmen, suction of impure water into water mains, laying of new mains, alterations to existing mains, condition of service reservoirs, &c., deserve attention.

Fourth Report on Research Work.

This report deals with the vitality of the cholera vibrio in artificially infected samples of raw Thames, Lea, and New River water, with special reference to the question of storage. Dr. Houston states that he is content to abide by the general view held that cholera is liable to be water-borne and that Koch's cholera vibrio is the microbe which conveys the disease. He mentions the cholera epidemic which was raging in Russia in 1908 and in the present year, and alludes to the possibility of cholera being conveyed to this country from Russia or India, although there is a first line of defence owing to the vigilance of the Local Government Board, port sanitary authorities, rivers boards, and medical officers of health, which may prevent contamination of our water-supplies. Dr. Houston says that the ravages of cholera in the past forbid the belief that our insular position and temperate climate afford us sufficient protection from this disease.

Eighteen experiments were carried out, namely—six with raw Thames water collected at Hampton, six with raw Lea water collected at Ponder's End, and six with raw New River water collected at Hornsey. These waters were inoculated with large numbers of living cholera vibrios from artificial cultures, and the samples were tested at weekly intervals by various methods and in different media for the cholera vibrios. In every case at the end of one week the percentage reduction of microbes present was over 99·9 per cent., and in every case at the end of three weeks it was found impossible to isolate any cholera organisms from 100 cubic centimetres of the infected sample.

Dr. Houston very fairly points out that he experimented with vibrios which had been grown on an artificial medium and not with organisms taken directly from the excreta of a cholera patient; also that the experiments were necessarily conducted in a laboratory, the conditions being different from those which would obtain if cholera vibrios were present in a storage reservoir. He says that it is always dangerous to argue from the particular to the general and to deduce from the results of artificial laboratory experiments the results likely to occur in natural conditions. He adds that the moderate character of his conclusions will be accepted as evidence of the careful manner in which he has sought to guard against errors of this kind.

Division 2 of the report is concerned with the detailed manner in which Dr. Houston devised methods by which he could with certainty identify true cholera vibrios, and he shows that by means of the technique which he specially worked out he was able to isolate cholera organisms from water if present in amounts as small as one per cubic centimetre. The following conclusions were arrived at:—

1. Cholera vibrios die very rapidly in *raw* Thames, Lea, and New River water as the result of storage in the laboratory. At least 99·9 per cent. perished within one week, and in none of the experiments could

any cholera vibrios (recognisable as such) be found even in 100 cubic centimetres of water three weeks after its infection. In more than half the experiments the results were negative by the second week (see Division 1).

2. The isolation of cholera vibrios from *artificially* infected *raw* river water presents no insuperable difficulties even when the number artificially added is very small, both actually and relatively to the bacteria normally present in the river water (see Division 2).

3. On the other hand, microbes liable (after careful study) to be mistaken for true cholera vibrios were not found in comparable, but non-infected, river water samples examined under precisely similar conditions (see Division 2).

4. All that I have said in the past as regards the advantages of storing river water from the point of view of typhoid fever applies to cholera, and the time required to ensure reasonable safety in the former case is, on the basis of these experiments, more than sufficient in the latter.

5. There are many circumstances which separately, and still more in conjunction, tend to safeguard this country from a cholera invasion. But no responsible authority can regard a cholera visitation as impossible, and, if it is possible, the part played by impure water in the past in spreading the disease should not be forgotten. Fortunately, even an initially impure water can, by adequate storage and efficient filtration, be brought into a condition of reasonable, if not absolute, safety.

6. In the particular case of the metropolitan water-supply there remain four reassuring circumstances even in the extreme (and, it is to be hoped, highly improbable) event of the raw sources of water-supply ever becoming infected with cholera. Firstly, the cholera vibrios, even if they were present in very few numbers, could be detected in the river water by appropriate tests (see Division 2). Secondly, adequate storage of the river water would eliminate the great majority, if not all, of them (see Division 1). Thirdly, the final filtration process, if efficient, would be an additional safeguard of proved value. Lastly, as the result of my experience at Lincoln, I should not be unprepared *in any emergency* to face the responsibility of sterilising the water-supply, if this was thought to be desirable, and so rendering it absolutely safe for drinking purposes. The existence of large storage reservoirs renders such a project quite feasible as a temporary expedient.

7. Although by no means defending the choice of an impure river water for waterworks purposes, the facts revealed in this report appear none the less to be of a reassuring character and to form another link in the chain of evidence which I have sought to establish—namely, that by adequately storing the *raw* impure river waters which constitute the chief sources of London's water-supply, antecedent to their filtration, the safety of the metropolis as regards water-borne epidemic disease (apart from the possibility of accidental infection at the works, or subsequently in the pipes) is almost, if not quite assured.

REPORT OF THE DEPARTMENTAL COMMITTEE ON THE WEST AFRICAN MEDICAL STAFF.

FOR some time there has been dissatisfaction in the West African Medical Staff, more especially in the junior ranks, as regards their prospects in the service, and owing to this and other circumstances candidates of a high class have applied for posts on the staff in insufficient numbers. The Secretary of State for the Colonies therefore decided in 1908 to appoint a Departmental Committee to inquire into the duties, organisation, emoluments, and selection of officers for this service. The Committee, which began its labours in November of last year, consisted of six members, three of whom, including the chairman, Mr. H. I. Read, C.M.G., were officials of the Colonial Office, and three were medical men—viz., Dr. Theodore Thomson, C.M.G., of the Local Government Board; Mr. W. H. Langley, C.M.G., principal medical officer, Gold Coast; and Dr. J. K. Fowler, late Dean of the Medical Faculty, University of London, and senior physician to Middlesex Hospital. The Committee held 13 sittings, at which a number of witnesses were heard, including Sir Patrick Manson, K.C.M.G., medical adviser to the Colonial Office; Sir A. Keogh, K.C.B., Director-General Army Medical Department; Surgeon-General A. M. Branfoot, I.M.S.; Major Ronald Ross, C.B., F.R.S., professor of tropical medicine, University of Liverpool; Professor W. J. R. Simpson, C.M.G., of King's College and the London School of Tropical Medicine; Lieutenant-Colonel J. Will, R.A.M.C., formerly principal medical officer, East Africa Protectorate, and others, some of whom were past or present officers of the West African Medical Staff. The report of the Committee has now been published. It comprises some 24 printed folio pages and contains a number of recommendations, in the forefront of which prominence is given to the creation of an advisory committee the functions of which should extend to East as well as to West Africa. It is urged that this new body would enable the Colonial Office to maintain closer relations with the medical profession and with medical science, and would be capable of offering expert advice to the Secretary of State if he so desired it on questions connected with tropical medicine and hygiene, including schemes for drainage and water-supply, plans for preventing and stamping out epidemic disease, bacteriological work, &c. It would also be able to advise as to selection of suitable candidates for appointments in the East and West African Medical Staffs, and as to filling up vacancies by promotion in the senior ranks of these services; it would further advise as to courses of study which medical officers should be called upon to undertake before promotion to the higher grade. This advisory committee, it is recommended, should consist of six members, two of whom should be Colonial Office officials representing East and West Africa, one of them acting as chairman; the remaining four members should severally represent tropical medical research, tropical hygiene, medical science and practice, and general hygiene. It is also recommended that if there should be available a retired medical officer of senior rank of the West African Medical Staff able to give the necessary attendance he should be appointed an additional member of the committee.

Duties and organisation.—While of opinion that it is not possible to make a complete distinction between the medical and sanitary duties of the staff, the Departmental Committee thinks that in the large towns such as Lagos, Accra, and Freetown sanitary work may be assigned to special officers who should give their whole time to such duties and who should hold a diploma in public health or an equivalent qualification. In out-stations, where the majority of medical officers reside, these officials must also act as part-time sanitary officers. The Committee advocates, in addition, the appointment of a limited number of the senior officers to devote themselves to the study of sanitation in West Africa, who should make tours of inspection both in coast towns and out-stations, making reports and if necessary recommendations to the principal medical officer. The reports would be forwarded by the latter to the Governor *in extenso*, with such observations and criticisms as might be desirable. The Committee does not favour the creation of boards of health to advise the local governments on questions of health and sanitation. It does not advise the appointment under prevailing conditions of a director-general of the West African Medical Staff; nor does it think that the appointment of an inspector-general is at present warranted. With regard to existing relations of the staff to the executive government and its officers, there appears to have been friction in the past, due, to some extent, to the view held by certain administrative officers that the medical department is subordinate to them and liable to be called upon for any duty at the discretion of these administrative officers. It seems strange to hear that in West Africa medical officers are regarded as having the smallest amount of work to perform, and that therefore they may be called upon in their so-called leisure hours to undertake duties outside their profession without any additional remuneration. There seems, too, to have been a practice of some administrative officers entering, for example, in the hospital visitors' book criticisms which were deeply resented by the medical officers. The Committee is strongly of opinion that the medical staff should be as far as possible restricted to their professional duties. It is pointed out that if these officers are employed in other work during their leisure hours they can take no share in the study and observation of clinical cases, original research, or other scientific work. It is recommended that the principal medical officer of each colony should be *ex officio* a member of the Executive Council and also of the Legislative Council.

Emoluments.—The present scale of pay for medical officers joining the staff is £400 per annum, rising by increments of £20 to £500. Till now the prospect of attaining a higher salary than this was to the majority exceedingly unfavourable. There are at present 167 officers of all ranks in the service, of whom only 21 are in receipt of a salary of £600 or more. Promotion is extremely slow, and naturally this condition of affairs has given rise to great discontent. To deal with this the Committee recommends the creation of a new grade to be termed "first-class medical officers," with a salary commencing at £500, rising by annual increments of £25 to £600. Such of the medical officers who have completed five years' service and who may be reported upon favourably to the Government by the principal medical officer are to be recommended for promotion to the rank of first-class medical officer, subject to the condition that such officer when next on leave will attend a course of study of not less than three months' duration, and subject to his obtaining a

certificate of satisfactory attendance, diligence, and proficiency. It is believed that these conditions will, on the one hand, prevent the promotion of unsatisfactory officers, and will, on the other, ensure that deserving officers will not be kept indefinitely serving at a maximum salary of £500, owing to lack of opportunities for promotion. Senior medical officers now receive £600, rising by £20 annually to £700; it is recommended that the increments be £25 instead of £20, and that officers of this grade, as well as those of the higher rank, should receive "duty pay." A recommendation is also made that a new grade of senior medical officer should be created to be named "first-class senior medical officer," with a salary of £700, rising by £25 annually to £800. Senior sanitary officers are to rank as first-class senior medical officers and to draw the same pay; and sanitary officers will rank as senior medical officers, with the pay attached to that grade. Further, deputy principal medical officers' pay is to be increased from £700 to £800, rising by increments of £25 to £900, with duty pay of £160. All principal medical officers should receive duty pay at the rate of £160 a year. No alteration is to be made in the special scale of gratuities to those officers retiring from the staff after nine or 12 years' service; nor is any alteration in the scale of pensions suggested. The question of private practice is discussed; there is none, however, to be had at most stations, and, as a rule, such practice where it is obtainable is allocated to the senior members of the staff. In West Africa difficulties have arisen as to what constitutes private practice and as to fees. The Committee recommends that when any difficulty as to these arises it should be referred in the first instance to the principal medical officer of the colony; and if his decision is disputed, that the matter should be submitted to the Governor for final settlement.

Study-leave is next considered, and it is recommended when the study is undertaken for promotion to the rank of first-class medical officer, that on production of the required certificates the fees should be paid for the officer, as well as the usual railway fares and lodging allowances. In other cases where special courses of study are taken in the interests of the service the same allowances and fees mentioned above should be paid. With a view to fill the sanitary posts already referred to, the Committee urges that medical officers with any aptitude for sanitary work should be encouraged to take the Diploma in Public Health or an equivalent qualification. As regards facilities for scientific research, it is recommended that apart from the Lagos Medical Research Institute already established, other local laboratories in the larger colonies should be provided where research work and routine analyses could be carried out by officers detailed from time to time for the purpose.

Recruitment.—It is hoped that the improved conditions of service recommended by the Departmental Committee will attract in larger numbers candidates of a high class. In the past it has not always been easy for outsiders to obtain information concerning the duties and emoluments of the West African Medical Staff. Vacancies, it is thought, should be made public by advertisement. It is now suggested that there would be advantage in distributing to the principal medical schools of the United Kingdom printed information concerning not only the medical staff but also as to the climate of East and West Africa, exaggerated views as to the unhealthiness of which are held in some quarters; the West Coast of Africa is still regarded by some persons as "the white man's grave." The Committee deprecates the employment of natives of West Africa, or of India, in the West African Medical Staff. There are some other minor points to which considerations of space do not permit us to allude on the present occasion.

Along with the Committee's report is published a despatch by Lord Crewe, dated June 18th, 1909, and addressed to the Governors of the Gambia, Sierra Leone, Gold Coast, Southern Nigeria, and Northern Nigeria, commenting upon the report and some of the recommendations. The Secretary of State on the whole is in agreement with the Committee, but he says there are certain points arising out of the report relating to the organisation, duties, emoluments, and study-leave respecting which he invites the views of the Governors and of their medical advisers before finally coming to a decision.

Should the recommendations of the Committee be adopted by the Secretary of State, and we see no reason why they should not, many of the causes of dissatisfaction and discontent in the West African Medical Staff will disappear, and the ultimate effects of the improved conditions of service will doubtless attract men of the highest class. The systematic application, by highly trained and specially qualified officers, of the principles of modern tropical medicine and hygiene to West Africa in the future must result in great improvement in the healthiness of these regions, with consequent increase in their material prosperity and economical development.

THE EARLY TREATMENT OF THE INSANE IN THE COUNTY OF LONDON.

THE recommendations of the Royal Commission on the Control and Care of the Feeble-minded have led the asylums committee of the London County Council to suggest the re-introduction next session of the Lunacy Acts Amendment (London) Bill, by which the Council has sought powers to establish receiving houses for the reception of persons mentally afflicted or alleged to be of unsound mind, with the object, if possible, of curing insanity in its early stages.

In a report presented to the Council on July 20th the asylums committee notes with very great satisfaction that the Royal Commission recommends the provision of receiving houses and receiving wards on lines similar to those suggested in the Council's Bill. The report of the Commissioners contains the following statement:—

"We regard it as very important that a free hand should be allowed to committees in dealing with this matter, so that they may be able to utilise many existing agencies for the purpose. We do not consider it at all necessary that in crowded centres of population large and expensive buildings should be erected like the reception blocks of the great county asylums. Separate wards in workhouses or in general hospitals might be used under contract, or existing houses or other buildings adapted. The special advantages of these reception wards for the clinical study of mental disease are so evident that many general hospitals, especially those to which medical schools are attached, would be glad, we think, if they were subsidised, to provide them within their own premises with medical, nursing, and attendant staff complete."

Reviewing the reasons why the establishment of receiving houses is desirable, the asylums committee points out that at present the Council's duty to the lunatic commences with his admission to, and ends with his discharge from, one of the asylums. The initial proceedings—i.e., the information to be given to a justice of the peace as to the insanity of an individual, his removal to a workhouse or infirmary, and thence to the asylum—devolve upon the relieving officer, and in some cases upon the police-constable. In the 30 unions and parishes into which the County of London is divided the methods of dealing with the insane naturally vary considerably. The great majority of those received into the Council's asylums are described as paupers in receipt of relief, perhaps under the authority of Section 18 of the Lunacy Act, 1890, which enacts that a person who is visited by the medical officer of the union at the expense of the union is, for the purposes of the section, to be deemed in receipt of relief. The number of patients who are removed direct from their homes to the asylums is very small indeed, the practice having grown up in the metropolis of removing practically all cases to the workhouse under Section 18. It is to be remembered that a very large percentage of the lunatics who become inmates of the asylums have never had cause to seek poor relief and have only entered the workhouse in consequence of their insanity. Their removal to the workhouse is often considered by the friends a great hardship and the practice is frequently complained of. There is, however, at present, apart from the workhouse, no available house of reception for alleged lunatics. In cases where the relieving officer takes proceedings he does so in a quasi-independent capacity, and as regards the medical examination of the patient the medical officers of the unions have no legal claim to be called in by the justices in preference to any other duly registered and qualified practitioner. In some unions and parishes of London the medical officer does not certify lunatics, but an independent outside medical practitioner

is called in by the justice of the peace. In the majority of unions and parishes the opposite is the case, and a medical officer of the union certifies and receives a fee for so doing.

The scheme proposed by the committee is that the Council should provide receiving houses to be entirely under its supervision and staffed by its officers, to which an alleged lunatic will be taken instead of to the workhouse. The medical superintendent of the receiving house will have power to detain the alleged lunatic for not exceeding three days, but before the expiration of that period he must bring him before a justice or else discharge him. The medical superintendent is to report to the justice whether, in his opinion, the alleged lunatic should be sent to the county asylum or be detained in the receiving house. If the justice decides that the case is one for asylum treatment, the usual proceedings under the Lunacy Act, 1890, will be taken. If, however, he decides that the case is one for detention in the receiving house, the justice shall call in the superintendent, and may, if he thinks fit, call in any other medical practitioner, and after investigation order the alleged lunatic to be detained in the receiving house. The detention order only remains in force for six weeks; extensions not exceeding three weeks at a time may be made by a justice if thought necessary. During his detention in a receiving house the patient will not be designated a lunatic or a pauper. At any time during the period of detention the medical superintendent, if he thinks the patient should be removed to an asylum, may bring the patient before a justice with a view to the ordinary reception order being made.

The advantage of the proposed scheme, continues the committee, will be apparent. The alleged lunatic, directly he enters the receiving house, will be under the care of medical men who have specialised in mental disease. The most experienced alienists are of opinion that the increase of insanity which has been apparent in London during recent years can only be limited by the proper early treatment of cases. Such treatment would be provided in receiving houses, and thus, without doubt many persons who are sent at present from the workhouses to asylums would not need to go to asylums at all, but would improve and recover at the receiving houses. In connexion with these there could be, if required, an out-patient department which would enable persons who needed it to obtain advice. Thus it is believed that many cases of incipient mental disease might be arrested, and the need for long seclusion in an asylum avoided. The Bill proposes that the certification of lunatics for detention in an asylum should be placed in the hands of the medical officers attached to receiving houses, and in this it coincides with the spirit of the recommendations of the Royal Commission. There would be discrimination as to the necessary treatment and classification of each patient, and thus only persons who required detention in an asylum would be sent there. The Bill proposes also to obtain power for the provision of ambulance stations and ambulances which would enable lunatics to be brought to the receiving house and to be transferred to the asylums with proper care and attention. There would be considerable economy in this, as at present each union makes its own arrangements for the removal of lunatics, and at times the arrangements leave much to be desired.

The committee thinks the special circumstances of London call for immediate action, and, as it seems improbable that the Government will introduce early legislation on the lines of the report of the Royal Commission, it holds that the County Council should itself make a move in the matter. When the question of providing receiving houses was before the Council in 1899 it was suggested that four should be established, each to accommodate 250 patients, the approximate expenditure being £500,000. The committee had subjected this scheme to severe pruning, and now proposed the establishment of two receiving houses, each for 250 patients, one on the north and one on the south of the Thames. By utilising part of the site being purchased for a mental hospital under the terms of Dr. Henry Maudsley's gift, the committee thinks the total cost of the scheme should not exceed £150,000 to £180,000.

The finance committee in a report on the financial aspects of the proposal points out that there would be a saving to the ratepayers because (1) the early treatment of incipient mental cases would minimise the increase of insanity; (2) the certification of patients would be done mainly by the medical officers of receiving houses without extra fee; (3) the conveyance of patients from the receiving houses to the asylums would be more economical than their conveyance from 29 different unions. The cost falling upon the Council would be (1) capital cost of buildings; (2) repair of buildings; (3) possible cost of maintenance of out-patients' department; and (4) pensions of staff. As regards maintenance of patients, this would be recovered from the guardians, but the cost in the receiving houses might be more than in the workhouses or infirmaries.

The finance committee goes on to say that in its opinion the arguments which had been adduced by the asylums committee in support of its proposals are such as to warrant the Council in obtaining Parliamentary powers to establish as an experiment *one* receiving house. It appeared to the finance committee inexpedient and unnecessary to obtain any further powers at present. In the event of one receiving house being established and proving a success, there would be no difficulty in obtaining additional powers. The committee is prepared to support the proposal if its scope is limited in this direction. By proceeding in a tentative and cautious manner the Council would avoid the danger of anticipating Government action upon the report of the Royal Commission. The committee adds, in conclusion, that the possibility of establishing the receiving house on the site of the proposed mental hospital influenced it greatly in coming to its decision, as it seemed to point to the possibility of trying an important experiment on a comparatively small scale.

The report will be considered by the County Council next week.

THE TWELFTH INTERNATIONAL CONGRESS ON ALCOHOLISM.

THE Twelfth International Congress on Alcoholism, of which the Duke of Connaught is the honorary President, was opened on July 19th, when the acting President, Lord WEARDALE, delivered an inaugural address at Kensington town-hall. This is the first time that the Congress has met in London, and the delegates representing 16 foreign Governments, the self-governing and Crown colonies, and protectorates received a cordial welcome from their colleagues in this country.

The temperance societies in the United Kingdom were well represented, and on behalf of the British Government departments there were present Mr. W. P. Byrne, C.B., Assistant Under-Secretary of State, representing the Home Office; Mr. H. B. Simpson, C.B.; Mr. J. Pedder; Mr. G. A. Aitkin; Dr. H. B. Donkin, Commissioner of Prisons; Dr. R. W. Branthwaite, inspector under the Inebriates Acts; Sir Robert Baxter Llewelyn, K.C.M.G., representing the Colonial Office; Dr. Arthur Newsholme, chief medical officer, and Dr. Arthur Downes, senior medical Poor-law inspector, representing the Local Government Board; and Dr. Janet Campbell and Dr. Alfred Eichholz, representing the Board of Education.

Lord WEARDALE said that he took the chair in the unavoidable absence of the honorary President, whose keen interest in the cause of temperance was well known and appreciated by all present. The temperance question was a vital one to humanity, and it was one in which a large amount of educative work had yet to be done. The earliest of these congresses was only held in 1885, and this was the first time that the Congress had held its proceedings in London, but national education was bringing to the rising generation a consciousness of the evils of alcoholism that would bear good fruit. To his mind the most important question was the relation of the drink habit to the welfare of the child, while he was glad that something had already been done by means of legislation to protect children from the influence of alcohol. This was a matter which would receive the attention of the Congress, while among other important questions to be discussed when dealing with the prevention of alcoholism was the medical side of the matter. On this important contributions to their deliberations would be made.

Dr. VON STRAUSS UND TORNEY, President of the Senate of the Supreme Administrative Court of Berlin, said that he had

been asked by Herr von Bethmann-Hollweg, the Chancellor of the German Empire, to express on his behalf his appreciation of the high aims which animated the Congress. The most important purpose in life was the promotion of the economic welfare of nations, and the principal obstacle to the attainment of that end was the abuse of spirituous liquors. Obviously the same means could not be used by all nations to bring about the desired end, but the proceedings of the Congress should have the effect of making the nations understand better the difficulties under which each had to work in order to do away with the evils consequent upon the abuse of alcohol.

The Rev. N. C. DALHOFF (Copenhagen) said that in Denmark the use of light beers was increasing and the use of beers of heavy alcoholic strength was decreasing. Denmark was living down the reputation of being a brandy-drinking country.

Dr. RAGNAR VOGT (Christiania) remarked that in his country the consumption of alcohol had been brought down to about a fourth of what it used to be during the past half century.

The Hon. G. F. COTTERILL (Washington) said that as long ago as 1812 a temperance organisation was formed in America, and that the United States had never recognised any vested rights in the drink traffic.

Sir JOHN COCKBURN and others having addressed the Congress, it was announced that the Queen of Holland had invited the next Congress to meet at the Hague in 1911.

In the afternoon the exhibition was formally opened by the Dean of Hereford. The exhibition illustrates the machinery of temperance work in various parts of the world. It includes literature, diagrams, lantern slides, photographs, models, chemical apparatus, regalia, postcards, medals, and a variety of objects of interest to the temperance reformer generally.

In the evening Mr. Lewis Harcourt, M.P. (First Commissioner of Works), held on behalf of the Government a reception for delegates in the Imperial Institute. Invitations were issued to more than 2000 guests. Those present included the Crown Prince of Sweden, the Swedish Minister, Lord Weardale, Lord and Lady Carlisle, Lord Saye and Sele, Field-Marshal Sir George White, the Dean of Hereford, the Hon. Mrs. Leigh, Sir John Kennaway, M.P., Sir F. Hodgson, the Hon. J. H. Turner, Sir T. Glen-Coats, M.P., Sir J. Batty Tuke, M.P., Professor G. Sims Woodhead, Lady Horsley, Dr. Clifford, Mr. Leif Jones, M.P., Surgeon-General G. J. H. Evatt, the Bishop of Croydon, Sir Percy Bunting, Canon Hicks, Sir T. P. Whittaker, M.P., Sir H. Hesketh Bell, Surgeon-General Pleadwell, Mr. C. H. Roberts, M.P., Lady Cecilia Roberts, Mr. J. S. Higham, M.P., Mr. W. McAdam Eccles, Sir E. Stafford Howard, the Archdeacon of London, Sir John Cockburn, Major Lugard, Dr. C. F. Harford, Colonel L. G. Fawkes, Colonel G. H. Bolland, and Mr. Mark H. Judge.

The real work of the Congress commenced on the morning of July 20th at the Kensington Town-hall, when papers were read on Juvenile Temperance, by Miss CORA STODDARD (Boston, U.S.A.); on Temperance Education in the School in Various Lands, by Herr J. GONSER (Berlin); and on Temperance Effort in Juvenile Societies throughout the World, by Madam ALLI TRYGG-HELENIUS (Helsingfors).

Miss Stoddart contended that if the child were instructed in temperance principles moral and spiritual ideals would be strengthened, but that such instruction must be begun early. Herr Gonser's paper was an optimistic plea for the continuance of temperance teaching, while the paper of Madam Trygg-Helenius was descriptive of the various juvenile temperance leagues. In the discussion which followed the reading of these papers emphasis was laid upon the importance of the personal factor of the teacher; it was upon this that the value of instruction in temperance principles, dietetic principles, and hygiene depended. As to the relative advantage of relying, in connexion with thorough instruction in temperance principles, upon personal conviction among the teachers, opinion seemed to be divided, many holding that legislative action would be more generally effective than private sentiment.

After the midday adjournment the conference met at the conference room of the Imperial Institute under the presidency of Mr. J. BYSTROM (Stockholm), when papers were read on Temperance Teaching in Higher Schools, by Miss A. W. RICHARDSON (London); on How to reach the Student Class, by Mr. IVAR THULIN (Stockholm); and on How to Educate the Teachers, by Herr J. PETERSEN (Kiel) and M. AUBERT (Paris).

In the afternoon a reception was held at the London Temperance Hospital by the British Medical Temperance Association, when the guests were received by Professor Sims Woodhead and Sir T. Vezey Strong.

Dr. A. HOLITSCHER (Carlsbad) read a report on Alcohol in Lobar Pneumonia and Enteric, founded on statistics from 47 hospitals, in 18 of which the plan of alternating treatment had been adopted. The purpose of this plan was to secure the most reliable proof as to the effect of alcoholic and non-alcoholic treatment. Among 238 cases of pneumonia treated with alcohol the death-rate had been 24·3 per cent.; among 248 cases treated without alcohol it had been 21·3 per cent. Of 47 cases complicated with delirium tremens, alcohol had been prescribed in 21, of which 15 ended fatally, while of the 26 patients treated without alcohol only nine died. While alcohol could not be made responsible for the difference between the 24·3 and 21·3 percentages owing to the smallness of the number of patients reported on, he thought the investigation demonstrated the complete failure of alcohol as a curative agent in such cases. Of the 161 typhoid patients reported on by eight institutions, 80 had been treated with alcohol, of whom 15 died, and 81 without alcohol, of whom 12 died.

Professor SIMS WOODHEAD said that the majority of medical men who had investigated the subject had arrived at the conclusion that it was necessary to revise their opinions as to the value of alcohol as a therapeutic agent. While admitting that sufficient evidence could not at present be obtained to put the case convincingly before the public, it was a fact that medical opinion was tending towards that which was held by those who discarded alcohol.

In the evening the Norman Kerr lecture was delivered by Professor TAAV. LAITINEN (Helsingfors) in the theatre of the Victoria and Albert Museum, the subject being the Influence of Alcohol on Immunity. The lecture was well attended, and was found by the audience to be both instructive and suggestive. It is referred to at some length in a leading article this week.

At the third general meeting, which was held in the Kensington Town-hall on July 21st, Dr. IMRE DOCZI read a paper on Alcohol and its Effects on the Child; Professor HERCOD took for his subject the Legal Protection of Children; and Mrs. BRAMWELL BOOTH spoke on Alcohol in its Relation to the Home. The Scientific Section continued its work and in the evening a public demonstration was held in the Queen's Hall, the LORD CHIEF JUSTICE presiding. The Congress will close on Saturday, July 24th, with a farewell *déjeûner* to the foreign guests.

(To be continued.)

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 23rd, 1831.

USE OF

HUMAN FAT

IN THE ARTS, ITS ECONOMICAL APPLICATION TO THE PURPOSES OF FUEL AND FOR FEEDING VARIEGATED LAMPS.

(Extracted from the Annales d'Hygiene Publique, &c.)

AT this period, 1813, a circumstance occurred in Paris, which, by its singularity and the importance attached to it by the government, deserves to be recorded. The servants of one of the anatomical theatres having been informed against for trafficking in human fat, were watched for some days by the spies of the police, and were shortly detected in the fact. The affair appeared sufficiently serious to be laid before the minister of general police. In the report drawn up on the subject, it was viewed in a moral and medico-political light, and the principle was laid down, that this fat, proceeding from bodies deceased in the hospitals, might propagate

diseases, and even compromise the lives of those who touched it. It was proved on the investigation of the affair, that there existed amongst the servants of the Faculty of Medicine, and of the private theatres, a kind of association for the purpose of trading in this material; that the fat not previously melted was used to grease the wheels of their waggons—that *several quacks purchased it as a remedy in painful diseases;* but it was especially consumed, and in enormous quantities, by the enamellers and false-gem makers, who bought it under the name of dogs or horse fat. Two thousand pounds of weight were found in the dwelling of one of the servants of the School of Medicine, 20 lbs. with another, 400 kilogrammes with a third, and two barrels full were seized with a fourth. A waggon drawn by two horses, and assisted by three porters, was required to draw this enormous quantity of fat to the Montfaucon sewer, into which it was projected.

In order that no public alarm should be created, or any popular commotion excited, the affair was tried with closed doors, and the culprits sent to the Bicetre for six months. In the different interrogations to which they were subjected, they confessed that they had repeatedly sold the fat at seventeen sous the pound, and that they found it a source of much emolument. It is, indeed, surprising that the government did not obtain earlier information on this matter, for the servants made no mystery about it, and they rendered the fat publicly in the anatomical theatres. On the marriage of Napoleon with Maria Louisa, we saw them prepare with this fat, solidified with some tallow, considerable quantities of flambeaux and lamps, which they sold to the neighbouring spice-men, and which were used for the illumination at the Faculty of Medicine and the Palace of the Luxembourgh.

THE INTERNATIONAL CONGRESS OF NURSES.

A NURSING Congress, convened by the International Council of Nurses, is at present proceeding. The International Council, founded by Mrs. Bedford Fenwick ten years ago, now consists of the National Councils of Nurses of seven affiliated countries—Great Britain and Ireland, America, Germany, Holland, Finland, Denmark, and Canada. This is the second quinquennial meeting of the Council, which has now agreed to hold its meetings every three instead of five years. There have, however, been two interim congresses, one in Paris two years ago and one in Buffalo in 1901. It has been arranged to hold the next meeting in Cologne in 1912, and Fraulein Agnes Karll, President of the German Nurses' Association, has been elected President of the International Council in place of the retiring president, Mrs. Fenwick. As stated in the "Foreword" issued by the honorary secretary, Miss L. L. Dock, "the essential idea for which the Council stands is self-government of nurses, with the aim of raising ever higher the standards of education and professional ethics, public usefulness, and civic spirit of their members."

The scope of the present Congress includes such subjects as Education and Registration, the Nurse in Private Practice, the Nurse as Citizen, the Relations of Nursing and Medicine, the Care of the Insane, the Nurse as Patriot, Morality in Relation to Health, and the Nurse in the Mission Field. Under these headings are classed the various branches of each subject, including School Nursing, Social Service Work, Nursing in Prisons, Massage, Professional Organisation, and Scientific Temperance.

Among those contributing papers to the Conference are Mr. Haldane, the Secretary of State for War; Miss Stewart, matron of St. Bartholomew's Hospital; Fraulein Agnes Karll; M. Mesureur, of the Assistance Publique, Paris; Dr. Anna Hamilton, of the Protestant Hospital, Bordeaux; Mr. D'Arcy Power; Dr. Frederick Rose, assistant medical adviser to the London County Council; Dr. Robert Sevestre, of the Leicester Infirmary; Dr. Robert Jones; and Dr. William Russell, medical inspector of the State Commission in Lunacy, New York.

Besides the affiliated councils, delegates have been sent from France, Italy, Sweden, Belgium, Switzerland, Japan, and Syria, so that the Congress may rightly be deemed an international one, and presents to the public a valuable accumulation of information respecting the progress of nursing and the condition of organisation of nurses in many parts of the world.

The meetings are being held in the Church House and Caxton Hall, where there is also a Nursing Exhibition. The chief features of interest here are the practical exhibits of nurses, organised by the various nurses' leagues and associations. One table is devoted entirely to dressings and appliances used in nursing injuries and diseases of the head, and contains exhibits from ophthalmic, throat, and ear hospitals. There is a well-equipped district nursing section, showing every kind of cheaply constructed emergency appliances, while some amusing models of cottages and rooms depict nursing in the days of Mrs. Gamp and in the hands of the Queen's nurse, the district patient before and after the advent of the nurse, and a typical Irish cabin.

There has been no lack of hospitality to vary the work of the conferences, and besides expeditions, banquets, and other entertainments organised by the honorary officers of the Council, the Congress was invited to receptions at Dorchester House by Mrs. Whitelaw Reid and at the Mansion House. For the visit to Windsor, arranged for Saturday, the King has sent instructions that special facilities be given to the visitors, and the Canadian delegates have received permission from His Majesty to lay a wreath on the tomb of the late Queen Victoria.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8268 births and 3637 deaths were registered during the week ending July 17th. The annual rate of mortality in these towns, which had declined in the five preceding weeks from 12·6 to 11·8 per 1000, further declined to 11·5 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these towns averaged 14·0 per 1000, against 14·9 and 13·7 in the corresponding quarters of 1907 and 1908; the mean rate in London during last quarter did not exceed 13·5, against 14·0 and 12·7 in the two preceding corresponding quarters. The lowest recorded annual death-rates last week in the 76 towns were 4·9 in Willesden, 5·6 in Rotherham, and 5·7 in Walthamstow and in King's Norton; the rates in the other towns ranged upwards, however, to 18·2 in Coventry, 19·5 in Warrington, 20·3 in Middlesbrough, and 21·5 in Great Yarmouth. In London the recorded death-rate last week did not exceed 10·6, and was considerably lower than in any previous week of this year. The 3637 deaths from all causes in the 76 towns last week showed a further decrease of 74 from the declining numbers in recent weeks, and included 324 which were referred to the principal epidemic diseases, against 321 and 341 in the two preceding weeks; of these 324 deaths, 114 resulted from measles, 67 from diarrhœa, 56 from whooping-cough, 35 from diphtheria, 30 from scarlet fever, and 22 from "fever" (principally enteric), but not one from small-pox. The 324 deaths from these epidemic diseases last week were equal to an annual rate of 1·0 per 1000, against 1·0 and 1·1 in the two previous weeks. No death from any of these epidemic diseases was registered last week in Birkenhead, Derby, Stockport, St. Helens, or in 11 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 4·5 in Wolverhampton, 4·6 in Coventry, 4·7 in Newport, and 5·9 in West Bromwich. The fatal cases of measles in the 76 towns, which had been 159, 129, and 138 in the three preceding weeks, declined to 114 in the week under notice; the highest annual death-rates last week from this disease were 2·5 in Norwich, 3·0 in Wolverhampton, 3·3 in Newport (Mon.), and 4·4 in West Bromwich. The 67 deaths attributed to diarrhœa showed a further slight increase upon the numbers returned in recent weeks, and caused the highest proportional fatality in Aston Manor, Rhondda, and Bolton. The 56 deaths from whooping-cough showed a further decline from recent weekly numbers, but caused annual death-rates equal to 1·6 in Swansea and 2·0 in Great Yarmouth. The 35 deaths assigned to diphtheria somewhat exceeded the numbers in recent weeks, and included five in Manchester and Salford, and three each in Birmingham, Hull, and Newcastle-on-Tyne. The 30 fatal cases of scarlet fever were fewer by

nine than those in the previous week, and included five in Manchester and Salford and three in Blackburn. The 22 deaths referred to "fever" exceeded the low number in the previous week by 13; they included six in Manchester and Salford and three in Blackburn. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had steadily increased in the six preceding weeks from 2228 to 2647, had further risen to 2737 on Saturday last; 415 new cases of this disease were admitted to these hospitals during last week, against 390 and 371 in the two preceding weeks. The registered deaths in London last week referred to pneumonia and other diseases of the respiratory organs, which had been 158 and 154 in the two previous weeks, further declined last week to 106, and were 21 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London last week included but three which were directly referred to influenza, against 13, 11, and seven in the three preceding weeks. The causes of 28, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during last week were again duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Salford, Nottingham, and in 51 smaller towns; the 28 uncertified causes of death in the 76 towns included five in Birmingham, and two each in London, Bootle, Warrington, Tynemouth, and Gateshead.

HEALTH OF SCOTCH-TOWNS.

In eight of the principal Scotch towns 944 births and 448 deaths were registered during the week ending July 17th. The annual rate of mortality in these towns, which had been equal to 13·3 and 12·9 per 1000 in the two preceding weeks, further declined to 12·5 in the week under notice. During the 13 weeks of last quarter the death-rate in these Scotch towns averaged 16·0 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 14·0. The death-rates last week in these Scotch towns ranged from 10·3 and 11·4 in Leith and Glasgow, to 15·6 in Perth and 18·8 in Dundee. The 448 deaths in the eight towns last week showed a further decline of 14 from the numbers in the two preceding weeks, and included 40 which were referred to the principal epidemic diseases, against 54, 37, and 36 in the three preceding weeks. These 40 deaths were equal to an annual rate of 1·1 per 1000, against 1·0 in each of the two previous weeks; the rate last week from the same epidemic diseases in the 76 large English towns did not exceed 1·0 per 1000. Of the 40 deaths last week from these epidemic diseases in the Scotch towns, 16 resulted from whooping-cough, 11 from diarrhœa, six from diphtheria, three from "fever," and two each from measles and scarlet fever, but not one from small-pox. The 16 fatal cases of whooping-cough showed an increase of four upon the number in the previous week, and included six in Glasgow and three each in Edinburgh, Dundee, and Aberdeen. The 11 deaths attributed to diarrhœa were fewer by one than those in the previous week; four occurred in Glasgow and two both in Edinburgh and in Dundee. The six deaths from diphtheria exceeded the numbers in either of the two previous weeks, and included four in Glasgow. All the three deaths referred to "fever" were recorded in Glasgow. The two fatal cases of measles were fewer than in any recent week, and included one each in Edinburgh and Paisley. The two deaths from scarlet fever were returned in Glasgow and Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 71 and 61 in the two preceding weeks, further declined to 56 in the week under notice, and were seven below the number in the corresponding week of last year. The deaths in the eight towns last week included 20 which were referred to different forms of violence, including 11 in Glasgow and three in Edinburgh. The causes of 24, or 5·4 per cent., of the deaths in the eight towns last week were uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·6, 18·5, and 15·6 per 1000 in the three preceding weeks, rose again to 16·9 in the week ending July 17th. During the 13 weeks of last quarter the death-rate in the city averaged 20·9 per 1000, whereas the mean rate during the same period did not exceed 13·9 in London and 15·8 in Edinburgh. The 129 deaths of Dublin residents from all causes registered last week showed an increase of 10 upon the number returned in the previous week, and included 11 which were referred to the principal epidemic diseases, against 13 and three in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·4 per 1000, the death-rate from the same epidemic diseases last week being equal to 1·0 in London and in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, five resulted from diarrhœa, three from diphtheria, two from measles, and one from "fever," but not one either from scarlet fever, whooping-cough, or small-pox. The fatal cases both of diarrhœa and of diphtheria showed an increase upon recent weekly numbers. The 129 deaths at all ages included 24 of infants under one year of age and 31 of persons aged upwards of 60 years; these numbers scarcely differed from those in the previous week. Three inquest cases and four deaths from violence were registered during the week; and 53, or 41·1 per cent., of the deaths occurred in public institutions. The causes of two, or 1·5 per cent., of the deaths in the city last week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but two of the 979 deaths were duly certified, while in Edinburgh the proportion of uncertified causes of death was equal to 4·6 per cent.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel George E. Weston retires on retired pay (dated July 17th, 1909).

Lieutenant-Colonel William B. Day, from the Half-pay List, is restored to the establishment with precedence next below P. C. H. Gordon (dated July 1st, 1909).

The undermentioned Lieutenants to be Captains (dated March 1st, 1909):—James S. Dunne and Arthur D. O'Carroll.

Lieutenant Gilbert G. Collet, from the Seconded List, is restored to the establishment (dated July 17th, 1909).

Captain Travis C. Lucas is seconded for service on the Staff of the Governor of Bombay (dated August 1st, 1908).

Lieutenant-Colonel M. W. Russell has been appointed Staff Officer to Principal Medical Officer, Eastern Command, vice Lieutenant-Colonel C. R. Tyrrell, who has been appointed Administrative Medical Officer, Bordon District.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the following officers of the Indian Medical Service:—Lieutenant-Colonel Henry George Luther Wortabet (dated June 22nd, 1909). Lieutenant-Colonel Alexander Silcock (dated March 25th, 1909). Lieutenant-Colonel Arthur Gervase Hendley (dated June 25th, 1909).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Supplementary List, Lieutenant Denis Murphy to be Captain (dated July 4th, 1909).

TERRITORIAL FORCE.

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: The promotion to the rank of Lieutenant-Colonel of Major (Honorary Major in the Army) Charles Stonham, C.M.G., bears date April 1st, 1908.

1st South Midland Mounted Brigade Field Ambulance: Captain William H. Stephen to be Major (dated June 21st, 1909).

2nd Highland Field Ambulance: Lieutenant John Innes to be Captain (dated June 2nd, 1909).

1st London (City of London) Field Ambulance:—The undermentioned officers to be Captians: Lieutenant Percival G. A. Bott (dated April 30th, 1909), and Lieutenant Andrew Elliot (dated June 17th, 1908).

3rd Lowland Field Ambulance: William Kelman Macdonald to be Lieutenant (to be supernumerary) (dated April 1st, 1909).

3rd Wessex Field Ambulance: Lieutenant-Colonel Harry

M. Brownfield resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated June 5th, 1909). Edmund Alderson to be Lieutenant (dated June 16th, 1909).

For Attachment to Units other than Medical Units.—Samuel Ryder Russell Matthews to be Lieutenant (dated May 1st, 1909). Albert Alexander Gunn to be Lieutenant (dated June 16th, 1909). Thomas Nash Thomas to be Lieutenant (dated June 17th, 1909).

VOLUNTEERS.

1st Cadet Battalion, The Manchester Regiment: Surgeon-Major Israel J. E. Renshaw resigns his commission (dated May 29th, 1909).

TEMPERANCE IN THE ARMY.

The annual report of the Royal Army Temperance Association for 1908–09 is excellent reading. It is the twentieth of its kind, and it contains a record of progress which has absolutely no drawbacks. In 1889 there were only 12,120 members of the association, which the Rev. J. Gelson Gregson had originally founded; now there are 30,614, the increase in the past two years alone having been 4704. Taking the normal strength of the British garrison in India as about 72,000, the proportion of temperance men is very high indeed, and there are signs that these numbers will continue to rise. In fact, there is reason to hope that in a few years' time one-half of the soldiers in British units will have become voluntary total abstainers. As the late secretary, the Rev. J. H. Bateson, happily puts it: "The association has become an army within an army—an army that is always absolutely sober." The effect of abstinence on the health and physique of men serving in a tropical climate need scarcely be dwelt upon; and there is also the higher moral tone which comes when the soldier leads a steady sober life. The support given to the association by the higher military authorities and regimental officers has been naturally of the warmest kind, and among the rank and file the old prejudice against the teetotalers has long since died out. The attractions offered in the matter of membership are such as are best calculated to win intemperate men from their demoralising habit, and to confirm the abstainer in his intention to keep the pledge that he has taken. The young soldier in particular, who is open to many temptations on arrival in India, benefits greatly by the operations of the association, and the State is the gainer by the sobriety which now reigns almost supreme throughout the cantonments of the country. Mr. Bateson has just retired from the secretaryship of the Royal Army Temperance Association after 20 years of unselfish labour, and he leaves to his successor an admirable organisation which cannot fail to endure. He carries with him the gratitude of many thousands of men who have reason to be thankful for all his efforts in the cause of army temperance.

Correspondence.

"Audi alteram partem."

MALTA FEVER ON THE RIVIERA.

To the Editor of THE LANCET.

SIR,—In the interest of those who may visit the Riviera next season it is, I think, desirable that the facts of the following case should be made known.

This year a gentleman, who was previously in good health, stayed for six weeks at one of the most frequented health resorts (?) there. He lived the ordinary life of a visitor, spent a good deal of time on the golf links, and returned to London on Easter Monday. For some days before starting for home he had been feeling unwell in the evenings, but neither then nor immediately after his return was the exact nature of his ailment recognised. As soon as it was found that he had a rise of temperature in the evening it was decided to have his blood tested for the reaction given by the organism of Malta fever. The result was "positive," and has since been frequently confirmed, and he has been in bed and seriously ill for 12 weeks suffering from that disease. This case is, in my experience, unique, but I am far from suggesting that it is the first of the kind. Probably it attention is called to it others will be reported and the true nature of many obscure illnesses which have followed a visit to the Riviera will be recognised. Malta fever is known to have a wide geographical distribution, but that an ordinary visitor to the Riviera runs a risk of acquiring the disease has not, I think, hitherto been appreciated. Possibly, in some quarters it will not be so even now. Sir Alfred Keogh has kindly furnished me with the following.

Return showing the Number of Admissions to Hospital for Malta Fever amongst the Troops Serving in Malta.

Year.	Number admitted.	Remarks.
1904	320	—
1905	643	—
1906	119	From Jan. 1st to June 30th.
1906	42	From July 1st to Dec. 31st.
1907	11	—
1908	4	—
1909	0	From Jan. 1st to June 24th.

The discovery that infection was chiefly conveyed by goats' milk was made in June, 1906. Is it possible that the goat owners of Malta, finding that there is no longer a sufficient demand for the milk of their infected herds, have shipped them off to the towns on the Mediterranean coast?

In the official statistics of Malta it appears that among the "exports of local produce as reported by shipping agents" there were in 1906–07: "sheep and goats," 764; in 1907–08, 778; the proportion of goats is not given. Of the goats examined by the Commission 50 per cent. were found to be affected by the disease, and 10 per cent. were actually excreting the micrococcus in their milk. That the export of infected goats is a source of danger is shown by the case of the s.s. *Joshua Nicholson*. In 1905 this steamer shipped 65 goats at Malta for export to the United States of America. Their milk was drunk by the captain and many of the crew, the result being that an outbreak of Malta fever occurred on board the vessel, almost all who drank the milk being affected. When the goats reached America they were placed in quarantine, but that they were still infective was proved by the fact that a woman who drank their milk acquired the disease.

It would be interesting to know the number and destination of the goats exported from Malta since July, 1906. I commend this inquiry to the government of that island.

I have no personal experience of the taste of goats' milk in tea or coffee, but it is said by some to be unpleasant; if so, it is probably but little used in the hotels on the Riviera.

The occurrence of the organism of Malta fever in cows has been observed in a considerable number of instances. Have the cows on the Riviera become infected?

In the process of making cream cheese nothing, so far as I am aware, is done to ensure that the milk is sterile, and failing that cream cheese made from goats' milk must be regarded as capable of conveying infection; in this case, indeed, it appears to have been its probable source.

It is, I submit, incumbent upon the sanitary authorities of the towns of the Riviera to at once institute an investigation into the bacteriological purity of the supply of the cows' milk, goats' milk, butter, and cream cheese, and until this has been done and the question herein raised has been satisfactorily settled it will be well for visitors to the Continent in search of health either to avoid the Riviera or to be well assured that at the hotels at which they may reside all possible precautions have been taken to protect them from Malta fever.

I am, Sir, yours faithfully,

July 20th, 1909. J. K. FOWLER.

THE NATIONAL LIBRARY OF WALES.

To the Editor of THE LANCET.

SIR,—Speaking from the presidential chair of the National Eisteddfod at the Albert Hall, London, on June 16th last, the Prime Minister, referring to the National Library of Wales, said: "That National Library will, I trust, become the centre, the home, the gathering and the training ground of Celtic scholarship in this country in the years that are before us. It already possesses, either actually or in promise, some

of the most valuable manuscripts and books which it is possible to accumulate for those who desire to explore the antiquities of Celtic literature and Celtic history." The Prime Minister went on to point out that it was a patriotic duty to assist the National Library and the National Museum by "adding to the treasures of which these great national institutions are to be the storehouse."

The National Library of Wales was founded by Royal Charter granted by H.M. the King in 1907, and entered upon the first stage of its existence on Jan. 1st of the present year in a temporary building at Aberystwyth, a building admirably adapted for the storing and cataloguing of the collections pending the removal to the permanent building which will be erected on a magnificent site of four acres close to the town of Aberystwyth, generously given for the purpose by the Right Hon. Baron Rendel. A large number of valuable gifts of books, manuscripts, prints, and drawings has already been made to form the nucleus of the library, which at this moment contains the finest collection of Welsh MSS. in existence, including the famous Hengwrt and Peniarth MSS.; the collection of MSS. and early Welsh books made by Moses Williams, afterwards the property of the Earls of Macclesfield; and a number of MSS. derived from other collections. The Hengwrt Library includes not only the oldest texts of Romance literature, but also one of the most valuable MSS. of Chaucer's "Canterbury Tales" and other MSS. of great importance. The number of printed books already in the library is nearly 50,000. We need, however, very many books in Celtic literature and, even more, works of general reference, standard books in English and other languages, sets of transactions of literary, historical, and scientific societies, sets of the great periodicals, dictionaries, encyclopædias, and many other books of various kinds which we have no funds to acquire.

The Charter provides for the circulation of duplicate books for educational and research purposes, and this will be an important feature of the work of the library. The case of Wales is exceptional. Its University consists of three national colleges situated at Aberystwyth, Bangor, and Cardiff, while there are other important centres of educational activity, all urgently in need of the aid which it is hoped the National Library will be able to give to the higher branches of study. I wish particularly to state that while the Celtic side of the library must be its strongest feature, yet the object for which it was founded is much wider. It is to be a national library in the best sense, designed to afford in Wales that opportunity and encouragement for study and research hitherto wanting, and the lack of which has placed Wales at a disadvantage as compared with the other divisions of the United Kingdom and with other countries. England, Scotland, and Ireland enjoy great privileges under the Copyright Act which Wales has not received, and can hardly now expect to receive. Three libraries in England and one each in Scotland and Ireland are entitled to one free copy of every book published in the British Islands, while five or six other libraries which formerly had the same privilege now receive an annual grant from the public funds in lieu of it.

It is contemplated to proceed, as soon as circumstances will permit, with the erection of permanent buildings, and plans have been provisionally adopted. A sum of £21,000 has been subscribed towards the building fund. To erect a suitable and worthy building will cost a far larger sum. The contributors to the fund include residents in all parts of Wales and Monmouthshire, and many residing in London and elsewhere, including Welshmen abroad. The fund is a truly national one, and is made up of sums ranging from £5000 to 3*d*. The quarrymen of Festiniog and neighbourhood, for instance, made up a list of 744 names for a contribution of £70 18*s*., while the teachers of Cardiganshire agreed to make up £100. In Carmarthen, Swansea, Cardigan, Aberayron, and other centres, large and small, committees were formed to collect subscriptions. The contributors to the fund fully represent the Welsh people and their enthusiasm for the National Library is clearly shown. The library has also received gifts from kindred institutions. The British Museum, the Library of Congress at Washington, the Smithsonian Institution, the Corporation of London, the John Rylands Library, Manchester, the National Library of Ireland, and the principal public libraries have each sent sets of their publications, while the University of Oxford has made a grant of publications of the Clarendon Press. Several eminent scholars at home and abroad have also sent gifts of books, in many cases spontaneously, and with a graciousness which greatly enhances the value of their gifts.

The library is managed by a court of governors and a council, to which bodies members are nominated by H.M. Privy Council, by the county and borough councils of Wales and Monmouthshire, the University of Wales, and the three University Colleges. The maintenance is provided by a grant in aid from H.M. Treasury, which at present only provides for bare working expenses. No sum for purchasing the large number of necessary books is at present available.

I venture to ask those of your readers who feel an interest in this effort to bring within the reach of the residents in Wales the advantages which a National Library offers to make gifts of books or money for the book fund and donations to the building fund.

Communications may be addressed to me at the National Library, Aberystwyth.

I am, Sir, yours faithfully,

JOHN WILLIAMS, President.

Plâs, Llanstephan, Carmarthen, July 12th, 1909.

METHODS OF BARBARISM IN ITALIAN HOSPITALS.

To the Editor of THE LANCET.

SIR,—The two events denounced in your columns under this title by a correspondent in Rome as having taken place in our hospitals—namely, the expulsion of a doctor from one of them on account of "moral turpitude" and of a sister from the other—are unfortunately true, but they took place with an interval of several years between them and have obviously been brought together in order to disparage our hospital institutions. I may add that the guilty persons received prompt and exemplary punishment. The other *irregularities*, of which, according to your correspondent, the two facts mentioned serve as a small demonstration, are not known to us, and we invite him to expound them in detail and to report concrete facts. Thirdly, the neglect of dying people on the part of sisters and nurses has never been shown to exist either in the Policlinico or in the other Roman hospitals. Fourthly, the confidence of the Roman public in the Policlinico and the other hospitals not only is not shaken but is steadily increasing, as is shown by the constantly rising number of patients and the fact that among these are many belonging to the leisured classes. Fifthly, our medical *personnel* is not inferior to that of other hospitals in other countries, and if the actual staff of assistants has not so far attained perfection, still, it has not all the faults attributed to it by your correspondent, while it is undeniable that it is improving steadily owing to carefully considered recruiting and a wider development of nursing schools. So much for the sake of truth. Then, as regards the close of your correspondent's letter, up to the present time we are really quite unaware of having any Anglo-American protectorate over our hospitals. The Roman hospitals live on their own incomes and on direct subsidies from the State, therefore if there is a limit to Anglo-American loyalty and liberality it is no concern of ours. In the hope that you will publish these few remarks of mine in your widely-read paper,

I am, Sir, yours faithfully,

Professor AGOSTINO CARDUCI,
President, &c.

Rome.

*** We publish this letter with pleasure, but it seems to have escaped Professor Carduci's attention that our correspondent was quoting the Italian journals, and gives the reference to much of what he reports as appearing in the *Tribuna*.—ED. L.

THE PROPOSED LEGISLATION IN REGARD TO ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—The present situation with regard to this question requires the careful attention of the medical profession, and the remarks which follow have no relation whatever to the practice of anæsthetics as a specialty, but apply to the

general practitioner of medicine in all parts of the kingdom. Dr. F. W. Hewitt has undertaken a most important work in bringing forward a measure to ensure protection to the public from the risks of general anæsthetics in the hands of persons who have not received a complete medical training. His proposals have been opposed by a portion of the dental profession partly on the ground that a very large number of medical practitioners are ignorant of the details and methods necessary for producing efficient anæsthesia for operations in the dental chair. In this statement they are perfectly correct, and this state of affairs has been due to the apathy and supineness of the medical student, who during his curriculum despises the idea of learning practical means of earning a livelihood from a secret conviction that he personally will be wafted into a consultant's chair where kneeling princes will pray for his advice. It is, however, absolutely essential that he should learn to give nitrous oxide and ether in the dental department of his hospital, so that he may become an efficient coadjutor of the neighbouring dental surgeon in that general practice which will have to support him and his family during his working life.

At the present moment, when the dental profession are making some claim to be more familiar with the use of nitrous oxide gas than the medical man, unless the latter opens his eyes to the fact that, by reason of his medical knowledge and training, he is the only proper person to induce and conduct general anæsthesia in all circumstances and decides at once to attend a dental hospital or department to obtain a proper facility with the apparatus and in the procedures involved, he will find during the next decade that a serious rivalry in this respect has been established and that he has cast away a valuable means of livelihood which is not only his birthright but a duty which he owes to the public who become his patients.

A medical practitioner is in a false position who, for no other reason than a want of activity in learning how to control the gas or vapour for the purpose in hand, stands by while his patient is subjected to the action of drugs which are potent enough to cause insensibility at the hands of others whose knowledge of medicine and therapeutics is less than his own.

Surely, if he thinks he is the proper person to be sent for to apply means of resuscitation in case of accident during anæsthesia he should be still more the fit person to prevent the accident from arising. It should be his task to choose the most suitable anæsthetic according to the opinion he forms of the patient's state of health, to produce complete anæsthesia, to discriminate during his administration of this anæsthetic between respiratory and circulatory symptoms, and to apply himself the remedial measures as required.

It is to be hoped that the teachers of anæsthetic administration in the hospitals of this kingdom will see to it that their pupils before qualification can properly administer nitrous oxide and ether for dental operations, and that the general practitioners will bestir themselves so that their present inefficiency in this respect may recede into the past.

I am, Sir, yours faithfully,

H. BELLAMY GARDNER,

Formerly Instructor in Anæsthetics at Charing Cross Hospital.

Harley-street, W., July 19th, 1909.

A SYSTEM OF DIET AND DIETETICS.

To the Editor of THE LANCET.

SIR,—Surely Dr. Young labours his points in endeavouring to support his statement that my views on the Salisbury diet are "incomplete and erroneous." As I pointed out in my previous letter, Salisbury sometimes prescribed 8 ounces a meal at the beginning of treatment; a statement made in my critic's first letter which contradicts his assertion that the "vital" error in my article has reference to quantity. Dr. Young, also, for the sake of his thesis, divided the food into three meals a day, although he complains that I did not refer to the number of meals, and regards that as a "fairly weighty error of omission." Now he assumes I have forgotten that Salisbury repeatedly emphasised that "five hours must elapse between meals." There is nothing in the original article which justifies either of these assumptions, and reference to it will show that the five hours' interval is mentioned in the statement that the water should be given at 6 and 11 A.M. and 4 and 9 P.M., and one or two hours before meals. Surely the reader can understand from those words that either three or four meals can be given and that even under a four meal *régime* the last one need not be later than 10 P.M. Talking of midnight, as Dr. Young does, as the time when the fourth meal would be partaken of, is an exaggeration. The diet received adequate notice, and the idea in Dr. Young's mind that the quantity and number of the meals are the "prominent essentials" obscures the wood by the trees. The essential feature of the diet is that it is one of meat and hot water only. Further I may point out that the strain on the kidneys and organs concerned in the metabolism of protein was not ignored. Surely Dr. Young will not maintain that if only one or two ounces are given for a meal a five hours interval is essential. Many cases do quite well on four-hourly feeds. These are what I call the minutiæ of treatment, the modifications required by the individual patient. I have no reluctance in admitting that 11 ounces, or even 8 ounces, is an unduly large quantity for some cases at the beginning of treatment, but even Dr. Young cannot get away from the fact that Salisbury sometimes prescribed 8 ounces and that in the course of treatment patients sometimes take more.

I am, Sir, yours faithfully,

EDMUND CAUTLEY.

Upper Brook-street, W., July 19th, 1909.

MEDICAL TOPICS AND THE PUBLIC PRESS.

To the Editor of THE LANCET.

SIR,—I am sorry to trespass again upon your space. The Editor of the *Practitioner* is of opinion that in my brief letter to you last week I have not cleared him from a suspicion of having sanctioned the republication of parts of my article in his July number. I am certainly pleased to do so, and to be assured that he had no responsibility in the matter. His permission was not sought.

I am, Sir, yours faithfully,

July 19th, 1909. DYCE DUCKWORTH.

DISUSED INSTRUMENTS AND MEDICAL CURIOS.

To the Editor of THE LANCET.

SIR,—The Medical Missions Committee of the Society for the Propagation of the Gospel are very grateful to an anonymous donor for a case of surgical instruments. They are always very thankful for such gifts for use in mission hospitals and dispensaries abroad or for the equipment of recently qualified doctors about to proceed to mission stations.

They would also, for exhibition purposes, be very grateful for gifts of *native* medicines, charms, or other articles used in the treatment of disease, the stock-in-trade of a Chinese doctor or chemist, or the dress, &c., of an African witch doctor. The object of showing these or similar articles at exhibitions is to contrast the apathetic indifference to human suffering, the heartless and stupid neglect of the sick, or the horrible cruelty to which they are subjected in lands where non-Christian beliefs hold sway, with the work of the medical (Christian) missionary, to whom all life is sacred, and who without distinction of class or creed ministers with loving skill to all alike. Gifts of such articles, accompanied by a brief description of their character and purpose, should be sent, with the name and address of the donor, to the Medical Missions Department, S.P.G. House, 15 Tufton-street, Westminster, London, S.W.

I am, Sir, yours faithfully,

E. H. MOSSE,

Chairman of the Medical Missions Committee, S.P.G.

July 20th, 1909.

THE ROUTINE USE, BY THE OPEN METHOD, OF A MIXTURE OF CHLOROFORM AND ETHER.

To the Editor of THE LANCET.

SIR,—I have read with interest the paper by Dr. Hewitt and Dr. Blumfeld, and also the correspondence following. After the publication of Dr. Hewitt's lectures on General Surgical Anæsthesia in your columns in July, 1907, I tried the C_2E_3 mixture on the open mask and my results corresponded to those described. But I returned to what we call

at the Bristol Royal Infirmary the "two-bottle method," the two anæsthetics (chloroform and ether) being in separate bottles and added to the mask as required, as I think it is an improvement on the use of one definite mixture.

By this method the amount of either anæsthetic can be altered at will, an enormous advantage in combating shock. For example, take a case where this "two-bottle" method is used. The anæsthetist sees that the next step of the operation is calculated to produce shock. He is able by adding more ether to his mask to anticipate the surgeon, stimulate his patient, raise his blood pressure, and place him in a position to better resist the effects of the coming manipulation. In this way more ether than required is never used; the type of anæsthesia is excellent; respiration, pulse, and colour remain good; and the amount of anæsthetic used very small, in my experience less than with the mixture.

I should have been glad if Dr. Hewitt and Dr. Blumfeld had given more particulars with regard to the use they make of oxygen, the only reference being in connexion with a case suffering from pneumonia. My own experience leads me to think that, when a patient is very ill and feeble at the time of operation, oxygen used in conjunction with the above method is a very valuable factor in the prevention of shock.

I am, Sir, yours faithfully,

Clifton, Bristol, July 19th, 1909. STUART V. STOCK.

THE ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND AND A MEMBERSHIP QUALIFICATION.

To the Editor of THE LANCET.

SIR,—The holders of the Licentiateship of the Edinburgh Royal College of Surgeons, either alone or conjoined with the Glasgow or other Scottish qualifications, have for a long time laboured under a disadvantage in practice through not having a Membership open to them. The matter has for some years engaged the attention of the Association of Medical Diplomates of Scotland, on whose behalf I venture to ask the publication of the following communication addressed to the Edinburgh College.

I am, Sir, yours faithfully,

DAVID WALSH,
Welbeck-street, W., July 21st, 1909. President, A.M.D.S.

TO THE PRESIDENT AND COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

GENTLEMEN,—The Association of Medical Diplomates of Scotland beg respectfully to remind you of a petition formally presented to your President and Council in 1905, praying that steps be taken, by extension of Charter if necessary, to secure an additional diploma of Membership for your ancient College. It was shown in that petition that the lack of an intermediate qualification between the Licentiateship and the Fellowship imposes a serious social and professional handicap upon your Licentiates in various parts of the United Kingdom and elsewhere, inasmuch as the majority of their competitors hold the Membership of other Colleges. The Council of the Association of Medical Diplomates of Scotland, therefore, as representing the interests of Edinburgh Diplomates in all parts of the world, would be glad to learn whether the Council of the Royal College of Surgeons of Edinburgh have taken any further steps in the matter. If nothing has yet been done they would venture to ask if there be any likelihood of this most important, and, in their opinion, most salutary change being considered seriously by the Council of the College.

It need hardly be said that the Council of the Association would most willingly coöperate with the College in any way that might lead to the desired end. They presume the College will hardly require any further proof of the popularity of the proposed change than that afforded by the petition already formally lodged with the College—a document that was signed by many hundreds of Fellows and Licentiates.

In conclusion, we venture to urge that the institution of the diploma of Membership must infallibly lead to a great increase of the popularity and the usefulness of our ancient College; nor could it fail to establish a fresh bond of union between the College and its diplomates in all parts of the world, at the same time re-awakening old memories, interests, and associations; while it would add to the material prosperity of the College for many years to come.

Awaiting the honour of your further reply to the considerations set forth in our former petition,

We have the honour to remain, on behalf of the Association of Medical Diplomates of Scotland,

(Signed) Yours faithfully,
DAVID WALSH, M.D., President.
SKENE KEITH, M.D., Hon. Treasurer.
P. H. PARSONS, L.R.C.S. & P. Edin., &c., Hon. Secretary.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.

To the Editor of THE LANCET.

SIR,—May we bring before your readers the claims of the Factory Girls' Country Holiday Fund?

The Fund last year sent away over 5000 of the poorest women and girls of London, some of whom, even some of the youngest, work from nine to 11 hours a day, and are in many cases the chief bread-winners in their families. Many of these girls have been saving up for months for their holiday; the total contribution from them reached, last year, the sum of £1558. But it is obvious that, from wages sometimes as low as 2*s.* 6*d.* a week, the whole cost cannot possibly be paid by them. A fortnight at the country or seaside, including fare, costs on an average 25*s.*, yet many factory girls cannot afford even a week, and if they could they would not know where to go. Many have never been out of London at all to stay.

To all, then, who value their annual holiday, we appeal, confident that they will not allow those who are working amid many hardships, to go on working without any change or refreshment. It has been already necessary to refuse all further applications since the end of June, and it is doubtful whether many applicants, numbering some thousands, may not after all be disappointed of their longed-for holiday unless further help be at once forthcoming.

Subscriptions and donations will be thankfully received by the chairman, the Rev. Edward Canney, St. Peter's Rectory, Saffron-hill, London, E.C., and by the honorary treasurer, Herbert Rendel, Esq., 51, Gordon-square, London, W.C.

Yours obediently,

MARY ST. HELIER, NORFOLK,
BEATRICE B. TEMPLE, HENRY SCOTT HOLLAND,
LOUISE CREIGHTON, H. ADLER (Chief Rabbi),
H. L. STEPNEY, ROBERT F. HORTON,
EDW. SOUTHWARK, FRANK LLOYD.

July 21st, 1909.

SANITATION AT SEA.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

FROM EGYPT TO MARSEILLES BY THE MESSAGERIES MARITIMES.—THE BEAUTIES AND ADVANTAGES OF THE ROUTE.—OLD SHIPS WITH GOOD COMPANY AND GOOD CUISINE.—BETTER QUARTERS FOR THE CREWS.—SANITARY PROGRESS IN TONQUIN.—THE MESSAGERIES MARITIMES' MODEL LAUNDRY AT MARSEILLES.

HAVING travelled to Egypt by the Austrian-Lloyd I returned by the French Messageries Maritimes. The two companies work together and give circular tickets, so that passengers may go by the one route and return by the other. For persons who are wintering in Egypt and can afford to stop on the road I would recommend Trieste for the outward journey and Marseilles for the return. Near Marseilles there are numerous half season places where the traveller may gradually prepare for the change of climate. An economic and pleasant way home for those who like the sea would be by the General Steam Navigation Company's ships which sail twice a week from Bordeaux to Tower Bridge, London. From Marseilles to Bordeaux, Arles, Nimes, Aigues-Mortes, Montpellier, Narbonne, Carcassonne, and Toulouse can be visited. They are all on the road and but a few hours' journey from each other. Though not winter stations, still, being in the South of France, they are much warmer than Paris or London. Then by taking a route that is not so direct all the health stations of the Pyrenees can be reached, together with Pau and Biarritz. In regard to the ships from Alexandria to Marseilles, it must be confessed that these are not up to date. They are old boats, and as the agreement between the company and the French Government has now run its course and must be renewed, the building of better ships was deferred until the new arrangement should be concluded. This was all the more necessary, as there was not only the question of the contract between the Government and the company, but a new law pending on the construction of ships and the conditions of navigation. This law has now been enacted and its stipulations are such that it will place the French passenger lines in the very fore rank of progress so far as health considerations are concerned.

To secure a better ship instead of taking the ordinary boat running from Alexandria to Marseilles, I was able, with the courteous assistance of the company, to embark at Port Said on the *Tourane*, a ship of 6000 tons which was on her homeward journey from Japan, China, and India. To my mind the principal advantages of this line are the sociability, the

cheerfulness, the ready wit, and the *savoir vivre* which so specially distinguish the French people. In Cairo I heard some English visitors complain that the discipline on the French ships was not severe enough, and that second-class passengers gained too easily and too frequently access to parts of the ship reserved for first-class passengers. But on pushing the inquiry further I found that the second-class passengers who had rendered themselves obnoxious by their loud and vulgar behaviour were Englishmen, and I can quite understand that the French officers would overlook conduct on the part of foreigners which they would never tolerate on the part of fellow-countrymen. The second great advantage of a French ship is the cuisine, while it is not necessary to pay 2*s.* or 3*s.* for a bottle of ordinary wine which only cost 2*d.* or 3*d.* For the sake of promoting temperance by encouraging the consumption of cheap natural wines instead of spirits all taxes have been abolished on ordinary wine. In France, therefore, the retail price varies from 2*d.* to 4*d.* the litre. In France or on French ships there is consequently no more reason to make a special charge for wine at meals than there is for bread, or pepper and salt.

So far as sanitation is concerned, the *Touraine* has none of the appliances found on modern ships. There is no mechanical ventilation, so that when the weather is bad the conditions below deck, especially among the third-class passengers, must be anything but pleasant. On the other hand, there is no general steerage, but cabins holding six berths with mattresses—in fact, complete beds. The sailors' quarters looked clean and airy, particularly as it was fine enough weather to keep the port-holes open. But heat came from the kitchens, which were too near, and the cooks complained of insufficient ventilation. Some of the firemen had cabins like the third-class passengers, and this is better than what I have seen on English ships. Indeed, in regard to space, bedding, and lockers, the poorest quarters seemed better than what obtains on inferior lines of passenger ships in England. Even the best British ships are only superior because they have mechanical ventilation, and not because there is more space or greater cleanliness. The Chinese and Arabs cook for themselves. The former eat no bread and only half cook their vegetables, but the French *chef* entertained a high opinion] of the skill of his Chinese colleague. The crew's closets, and especially those used by the Arabs, were very clean and free from bad odour. The closets consisted of iron troughs with salt water flowing in them all the time. There was no hospital on board, but a first-class cabin with four berths was kept empty to be used as an emergency hospital, though it was not properly situated or furnished for such a purpose. There was a disinfecting stove on deck. It is used once on every journey even when there is nothing to disinfect, but simply to see that it is in good working order. But for this it might happen that when urgently wanted a screw, an indiarubber flange, or other small thing would be missing. The stove is also usually brought into operation on arriving at Suez from the East. The passengers are then asked for all their dirty body linen as a routine, so as to accustom them to the idea and to demonstrate that their linen is not injured by the process. Then when a real danger is present there is not the same resistance nor as many objections offered as there used to be when it was proposed to apply an altogether unprecedented and unknown proceeding.

During the passage I was able to obtain some interesting information from medical officers who had terminated their term of service in Tonquin. The natives, they said, were peaceful agriculturists who only desired not to be molested and to pay as few taxes as possible. They were still oppressed by the mandarins, but they knew that, at least in extreme cases, they could obtain redress by complaining to the French authorities. Consequently, there was a party among the natives that favoured the French occupation. All attempts at scientific farming, I was told, had been dismal failures. The only paying thing a European could do was to buy land and let the natives cultivate it, reserving a share of the profits; this would bring in from 10 to 20 per cent. The French have introduced the usual evils of civilisation, and the resources of the country are strained to pay pensions to those who, having served their time, will spend their money at home. On the other hand, the French have abolished plague and cholera. The natives aiding, the first cases are promptly reported, the patients and contacts are isolated, and then if there are 20 to 30 cases remaining to be dealt with they can soon be stamped out. As sanitary reformers the French have evidently done very good work in Tonquin; but I gathered that it was considered doubtful whether this colonial enterprise is, on the whole, of benefit to the natives. Further, it should be noted, and I was much impressed by the fact, that the latter observation inferred the belief that such enterprise was only justified if it did improve the condition of the natives.

The journey from Egypt to Marseilles affords opportunities of enjoying some magnificent scenery. On approaching the Straits of Messina a commanding view of Mount Etna can be obtained. Then the Straits are so narrow that Reggio and the Calabrian ranges on one side, and the thickly populated verdant mountains of Sicily on the other side, are both quite near enough for the full appreciation of their beauty. On the other hand, it needed good glasses to see the ruins caused by the recent earthquakes. A few hours later, after passing through the Straits, the ship approaches the cone-shaped volcanic mountain island of Stromboli. On the other side of the ship, also well in sight, was the rock-formed Lipari and other wild-looking, picturesque islands, celebrated for the delicious wines obtained from the grapes grown on their volcanic soil. Then on the morrow the ship sails through the Straits of Bonafacio, and here again beautiful views of the coasts of Corsica and Sardinia can be enjoyed; while, finally, the islands of Hyères, the coasts of the French Riviera, and Marseilles itself form a magnificent framework of purple mountains and white glistening towns that wall in the deep waters of the blue Mediterranean.

A very important part of the problem affecting sanitation at sea is the laundry question. An abundant supply of absolutely pure linen is an essential to health and comfort, and this the Messageries Maritimes have taken into consideration from the very beginning. So long as 47 or 48 years ago they purchased a country house surrounded by extensive grounds some three miles outside of Marseilles. It was not a question of being near the ships so as to quickly transport the linen, but of getting away from the dirty atmosphere of the town and of securing plenty of pure air and sunshine to dry the linen. Now, however, Marseilles has so grown that the estate is not so free from the soot and smoke of factories as it used to be. Nevertheless, I have not seen elsewhere and in connexion with shipping companies such extensive open-air drying grounds as those of the Messageries Maritimes laundry near the Pont du Jaret in the rue Saint Pierre. Here all the woollen blankets are dried in the open air, and this not only makes them delightfully fresh and sweet but prevents their becoming like felt, which is a very general consequence of being dried artificially. There is room for several miles of rope to be extended backwards and forwards across the grounds, and here all sorts of linen as well as the blankets can be exposed to the wind, the country air, and the sunlight. It is hardly necessary to insist on the great advantage of this simple natural method of drying. The only disadvantage is that the laundry is a long way from the docks, but a tram line passes close by and a branch line into the laundry will soon be built. Then special cars for carrying linen will be constructed, and these will run straight from the ships to the laundry and back from the laundry to the ships.

When this laundry was first installed there was no machinery and everything was done by hand, but in those days the company had only a few very small ships. In 1852 there were not more than 17 ships, with a total tonnage of 13,600; now there are 68 ships, with a total gross tonnage of 294,973. When one of the larger ships arrives from the Far East it brings some 25,000 pieces of dirty linen. At the laundry something like 3,000,000 different articles are washed during the course of the year. There are a series of large rooms to receive this linen. On one side there is the yard where the carts drive up to the doors of these rooms, and the chief steward accompanies the linen, for which he is responsible till it has been counted out. An opening in the wall of the counting-room serves to receive the linen and convey it to the laundry and a receipt is given to the chief steward; the laundry then becomes responsible. For this it is important to have separate receiving- and counting-rooms, so that

no two ships' linen shall be unloaded in the one room. My ship, the *Touraine*, brought no less than 30,000 pieces to wash, and it required a good-sized room to sort and count all this. After counting, and when once in the hands of the laundry administration, the linen has to be divided into three classes—the very dirty, the dirty, and the comparatively clean. Each category is washed differently so as to avoid wearing out the cleaner pieces. There are great vats or tubs some five to six feet deep and nearly as wide, and these will hold about 700 kilos weight of linen. With the linen there is some 900 litres of washing water, and this is made to circulate slowly round and through the linen for some six hours. After that the linen can be cleaned much more easily and therefore with less wear. Otherwise the linen could at once be put into the revolving and beating drum or mechanical washers, but it would be necessary to knock the linen about for a much longer time before it would be cleaned.

Wine stains on the table linen are very frequent, and for this the *eau de Javel* so popular with the French laundress is used. It consists of a solution of chloride of lime of stable strength and easy application. After remaining half an hour in the washer where the linen is beaten amid soap-suds the hot soapy water is drained off and replaced by fresh cold water, so delivered as to allow the linen to cool gradually and thus avoid fixing the stains. Ten minutes of fresh-water rinsing follows on this gradual change. To dry the linen it is first placed in a centrifugal hydro extractor, which whirls round so rapidly as to throw the water out, and the linen is then damp but no longer wringing wet. Certain sorts of linen may then be ironed, and there are huge revolving cylindrical rollers no less than 3·50 metres long. Under these two sheets can be passed and ironed side by side. Like those employed at Liverpool in the laundry works of the Cunard Steamship Company, they are much larger than the standard size. I found that at Marseilles they had not introduced any automatic finger-guards. There was nothing to prevent the fingers of the attendants being carried under the roller and crushed. At the Cunard laundry works, as I have described,[1] there is a sort of rod in front of the ironer, and if the fingers press too far forward they will lift this rod before they reach the roller. The raising of the rod at once stops the machine and no accident can happen.

The place where the greater part of the washing is done is like a large and lofty hall with lantern openings on both sides of the roof and windows facing each other along the longitudinal walls. There is therefore plenty of air space and light. The mending rooms are also large and light, but the room for ironing by hand is not important. Machinery has almost entirely taken the place of this sort of work. There is only a little hand ironing to be done and this principally for hotels, for which establishment the company is now beginning to cater, and it will be an advantage for travellers who have to stop at Marseilles to have a sanitary laundry at their disposal.

One of the greatest difficulties in washing ships' linen is to remove rust stains. These are naturally more plentiful at sea than on land. The problem has now been solved, perhaps in a somewhat empirical manner. The rust-stained linen is soaked in a bath placed in the open air and containing a very weak solution of oxalic acid. The secret of success is to never change the water; it may be replenished, but the bath is never emptied, and it is only after it has been in use for about two months that the maximum of effectiveness is attained. Another peculiarity demonstrated by experience is that the result also depends considerably upon the weather. The rust stains disappear much more quickly when the sun shines. The mistral wind, which is not only very violent and cold but ensures the maximum of sunshine and a very dry atmosphere, is also favourable. On the other hand, dull, heavy, cloudy weather is absolutely unfavourable for the process. The rust-stained linen may then have to remain in the solution of oxalic acid all the night. This is likewise the case when the stains are very bad. Generally speaking, it suffices to lay out the linen flat in the tank and let it soak for about four hours. By that time the rust stains will have disappeared. Then the linen must soak in a soda bath for two hours so as to remove the oxalic acid and check its burning action. It will then be found that the linen has not lost any of its strength. Put to the test of a dynamometer it will not break sooner by pulling than if it had not been washed in this manner.

Apart from these ingenious devices it was a pleasure to observe the freshness, ample space, and abundance of light that prevailed throughout the premises. There was an abundance of trees, while flowers, some wild and some cultivated, disputed with the linen for a share of sunlight. The steam, the sloppy wet floor, the hot muggy atmosphere, the sour effluvia of the old-fashioned and small laundries—the characteristics that render laundry work unhealthy—are quite unknown here. The women workers are rarely ill and have no complaint to make on the score of unhealthy conditions.

[1] See THE LANCET, Sept. 26th, 1908, p. 973.

CHOLERA AND PLAGUE IN RUSSIA AND THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

Fresh Outbreak of Cholera in St. Petersburg.

As stated in my last letter (THE LANCET, June 26th, p. 1864) the epidemic of cholera in St. Petersburg, which began in August last, appeared to have come to an end on May 14th (27th). The respite was, however, a very short one. On May 25th (June 7th) the city was once again declared "infected." In the week ending May 30th (June 12th) there were 58 cases of the disease there with 19 deaths. Since then the returns have been as follows :—

Between May 31st	and June	6th	...	202	cases,	46	deaths.
,, June 7th	,,	13th	...	548	,,	155	,,
,, ,, 14th	,,	20th	...	664	,,	234	,,

(All the dates mentioned are according to the Old Style.)

The epidemic so far has been confined to St. Petersburg itself, with the exception of a few cases imported elsewhere by persons coming from the capital. Thus in the week ending June 13th the figures include three such cases, imported respectively to Mariengam (government of St. Petersburg), and to places in the governments of Olonetz and Riazan; and in the last week of the table they include two similar cases, imported respectively to the government of Novgorod and to the town of Riga. All these imported cases have, it is said, been isolated. But the situation is unquestionably a disquieting one. Already the epidemic in the capital may be regarded as of serious proportions (though it is still far from the maximum height of last year's outbreak), and a further extension of the infection to other parts of Russia is almost inevitable. It will be fortunate, indeed, if other countries escape the disease.

In former letters I have referred more than once to the question of the St. Petersburg water-supply. It will be recalled that a Government Commission was recently appointed to study the whole question of the water-supply and drainage of the city. According to the daily papers the expense is estimated at 100,000,000 roubles (about £10,000,000), and this sum it is proposed to raise by a public loan. The works will, it is thought, take about 15 years to complete. It is obvious, therefore, that this great scheme can have no immediate effect on the present epidemic, which will have to be fought with the same inadequate weapons as in the past. But it is very satisfactory that the Russian authorities are taking a large view of their responsibilities, and are contemplating works intended to attack the evil at its root. The problem set before the Commission is, as already pointed out, a difficult one, in view of the topographical conditions at the mouths of the Neva, and the method by which the problem is attacked and the solution arrived at will be watched with interest by all who are called on to deal elsewhere with such large public health questions.

Plague in Adalia.

On July 2nd a case of suspected bubonic plague was observed in the port of Adalia, on the southern shores of Asia Minor. The patient was a girl, aged 10 years, daughter of a worker in a mill. She had already been ill for seven days, with all the clinical symptoms of an attack of plague, the bubo being in the left groin. The case is recovering. It will be recalled that similar isolated cases of plague occurred in this town in 1905, 1906, and 1908. In last year's outbreak two cases were

seen (in a flour mill) on July 26th; then on August 22nd there was a third case, followed on Sept. 5th and Sept. 23rd by two others, making five cases (with three deaths) in all. This year's case has occurred in the same quarter of the town as those of last year. The only measure put in force against Adalia has been a medical visit on departures.

Plague near Beirût.

On July 1st a case of suspected plague was reported from a village in the Lebanon, called Harret Arik, situated about an hour away from Beirût. The patient was a boy, aged 13 years, employed in a tailor's shop in that town. On June 27th he returned to the above-named village in the evening; apparently he was already ill, and shortly presented all the symptoms of an attack of bubonic plague; in this instance also the bubo was in the left groin. A bacteriological examination was made and bacilli were found resembling those of plague. This case also appears to be recovering. As in the case of Adalia, a medical visit has been imposed upon departures from Beirût. It will be recalled that last year three sporadic cases of plague were seen in Beirût between Sept. 19th and 23rd, and that in December there were five cases of the disease in its pneumonic form at the French hospital in that city. It would seem that both here and at Adalia the infection of plague lingers on from year to year without giving rise to anything more formidable than a few sporadic cases of the disease in the human subject. As to its behaviour in rats during the intervals there is, unfortunately, no information.

Plague in Bahrein.

Since the date of my last letter the following returns have been received from Bahrein (in the Persian Gulf):—In the week ending June 3rd, four deaths; in that ending June 10th, two deaths; and in the week ending June 17th, no deaths. Finally, under the clauses of the Paris Convention Bahrein was declared free from plague on July 2nd.

Suspected Cholera on an Indian Ship.

The following remarkable series of incidents recently occurred on a British ship called the *Alavi*. This is apparently the same steamer on board of which three cholera cases occurred at the lazaret of Camaran at the end of last November. (Those cases were mentioned in a letter of mine which appeared in THE LANCET of Jan. 16th last, p. 196). Of the history of the ship between that time and the middle of May nothing is known here. On May 19th she left Calcutta with a cargo of rice and with four passengers. Between Calcutta and Aden, again, three deaths from suspected cholera occurred in members of the crew. These deaths took place respectively on May 21st, May 31st, and June 14th. The symptoms are said to have been those of cholera, and the illness lasted in each instance only one day. The ship called at Berbera and at Aden, where she arrived on June 17th. There she was regarded as "suspected"; the drinking water on board was treated with permanganate of potash and changed; the bilges were also disinfected with carbolic acid, and the crew's quarters, their clothes and effects, were all disinfected. The three patients were all stokers. The ship went on to Jeddah, where she arrived on June 22nd. There was nothing suspicious on board at the time of arrival; nevertheless, the same measures that had been applied at Aden were repeated here, and the passengers were subjected to five days' quarantine. On June 29th, that is seven days after her arrival, another member of the crew (also a stoker) fell ill with symptoms described as those of cholera, but of the "dry" form. The ship left *en contumace* for India on July 1st, taking the patient with her. Later written reports may perhaps throw further light on this case. It is not easy to see how the diagnosis of cholera of the "dry" variety could be arrived at, in the absence of an epidemic, unless death supervened in a few hours (the so-called "fulminant" form of cholera), which apparently was not the case in the present instance, or unless there was bacteriological evidence of the nature of the illness. Apart from this, however, the occurrence of three deaths on the voyage, at the intervals named, from a rapidly fatal form of disease resembling cholera, is noteworthy. It can scarcely be more than a coincidence that they occurred on a steamer from which, some six months previously, three cases of undoubted cholera had been isolated at the lazaret of Camaran.

Constantinople, July 12th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

"Afflicted Children."

ON July 10th, under the auspices of the National Special School Union, a meeting was held at which Mr. C. H. Wyatt, director of elementary education, Manchester, gave an address on the need of special schools for afflicted children. Dr. A. Brown Ritchie, chief medical officer to the Manchester education committee, who presided, said that they ought, in regard to the schools for the mentally defective, to aim at getting a higher type of the mentally defective. The lower types of the mentally defective and imbeciles were of no use in the special schools. He said there was a regrettable tendency to keep these mentally defective or very backward children year after year in the elementary schools, instead of having them sent to the special schools. Every year thus spent was the loss of a year. He advocated the teaching in these special schools of manual work. There is no doubt that many of these children, backward and unable to assimilate ordinary teaching though they may be, sometimes show remarkable aptitude in technical pursuits and the use of tools. Mr. Wyatt said that while the public conscience had felt that the blind and the deaf must be taught and trained, he regretted that the care for the mentally deficient, the crippled, and the epileptic, had not secured nearly the same hold on the public mind; hence, little had been done for them. The reason for this was want of knowledge and want of money. The latter was a real hindrance even where the authorities were anxious to do something, and he seemed to think voluntary help was needed before Parliament would be induced to move in the matter. Most members of our profession will agree with his concluding remarks: "Some of them were sure that it would be true economy to provide permanent care for all such helpless persons, seeing that nothing short of this would stop the ever-increasing number of those who, without such provision, came into the world born to a life of misery, it might be of vice, and the unfortunate producers of a miserable progeny—a real danger to national life which must be removed if they were to deal effectively with crime and pauperism."

Post-mortem Examinations.

Some of the Chorlton guardians are in an excitable mood with regard to post-mortem examinations. At a meeting held on July 9th one of them moved a resolution, proposing that the medical officers should state the name and address of any relative who assented to a post-mortem examination being made, also the ground on which the examination was considered desirable, and the conclusions drawn from the examination. These facts were to be entered in a book, which was to lie on the table at each meeting of the house committee. A lady guardian, oddly enough connected with the medical profession, seconded the resolution, and several members spoke in favour of it. Dr. J. S. Orchard, the medical officer, who has held his very responsible position for many years, had written a letter showing how two recent post-mortem examinations had furnished important information that would not have been obtained in any other way; but, in spite of this evidence, the resolution might have passed had not the mover attacked the chairman in terms which led to the breaking-up of the meeting without the resolution being put. The object of the resolution was, apparently, to throw all possible difficulties in the way of obtaining medical knowledge. Whether the question will come up again remains to be seen. It was the sequel to rather an excited meeting held in June, when there was a long discussion on the question of post-mortem examinations, arising from some remarks made by the coroner, which seem to have been hasty.

River Pollution.

With the idea that a river is intended by nature as a convenient receptacle for all the filth that can be turned into it that is held by a large percentage of the population, it is not to be wondered at that such a river as the Irwell, flowing through a populous industrial district, should give endless trouble to the authorities in spite of laws and regulations. It seems, too, a little hard that Salford should get so much of the blame for faults and failings in

some measure due to the heritage it receives from the higher reaches of the river. In the days before cotton reigned supreme the Irwell must have been one of the most beautiful of our northern streams, but now, in spite of the efforts made for its purification, its colour is generally black, though sometimes it is green or yellow, according to the pollution used. Its odour is its own. It is therefore not surprising that at the last meeting of the Mersey and Irwell joint committee Mr. Scudder, the chemical adviser, submitted a report which was not altogether satisfactory. Some part of it refers to sewage effluents higher up the river and part to Salford itself. Out of 91 samples from the works of local authorities, 13 were good, 31 fair, 21 unsatisfactory, and 26 bad. At the Salford works there is an increased volume of sewage, but at the present time some of the filters are out of use and only about one-half of the dry weather sewage was being filtered. The subcommittee considered that, even with the whole of the filters in use, the filtration area was inadequate to deal with the flow of sewage. As a result of this the corporation has been asked to give an undertaking to make its filtration area adequate to deal efficiently with the whole of its sewage. To this the town clerk of Salford has replied that the question "is receiving careful consideration." An important complaint was made from the Ashton Cotton Spinners' (Employers) Association respecting the river Tame, which might perhaps give points as to pollution, even to the Irwell. It states that, owing to the very serious pollution, mill-owners who draw their feed water from the river find their pipes and valves corroded to such a degree as to cause great inconvenience, and they feared that unless the corrosion were lessened it "might lead to an accident which would create havoc to life and property in the district." The matter was referred to a subcommittee for special consideration. It is to be regretted that our rivers should become vile and disgusting nuisances.

July 20th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The Health Congress.

DURING the last week a Health Congress has been in progress at Leeds organised by the city and University with the help of the Royal Sanitary Institute and the Royal Institute of Public Health, and the presence of nearly 1200 delegates has ensured the success of the gathering. On the evening of July 17th the Lord Mayor of Leeds, Alderman F. J. Kitson, and the Lady Mayoress, received the delegates at the University, and Colonel T. W. Harding, President of the Congress, delivered his presidential address, in the course of which, whilst acknowledging the advantages of modern sanitary science, he doubted whether we were healthier than our fathers, seeing that we had lost much of their simple, rational, and natural way of life. He pointed out that formerly three-quarters of the population dwelt in the country and one-quarter in the towns, but that now this ratio was more than reversed. He referred to the reduction in the mortality from phthisis, but deplored the number of deaths that it still causes. In discussing the declining birth-rate he found some comfort in the reduction of the number of early improvident marriages. He finished his address by a warm approval of physical exercises and training in schools and looked forward to the day of universal military service as one that would bring great benefit to the public health.

The work of the Congress was opened on July 19th. The Lord Mayor of Leeds presided over the session of municipal representatives and described some of the improvements that his corporation has effected in the slum areas of the city. Mr. Percy Robinson read a paper on Town-planning, in which he suggested the formation of advisory expert committees to assist municipalities in that branch of their work. Alderman H. W. Newton read a paper on Labour Colonies, and Councillor F. Anderson one on the Children Act. Sir James Chrichton-Browne, vice-President of the Congress, presided over another section, which discussed "Present School Methods in Home Life," after which papers on education were contributed by Miss Hitching, Mr. D. O. Holme, and others. Dr. J. R. Kaye read a paper on "Ameliorative Measures Indicated by School Medical Inspection." Open-air schools came in for discussion, and Sir Charles A. Cameron of Dublin maintained that the meteorological conditions in Ireland were against their adoption. He urged strongly the need for medical inspection of school children in that country. On the following day Dr. Arthur Newsholme gave an address on Preventive Medicine, in the course of which he discussed alcoholism and the spread of enteric fever by shell-fish. Dr. E. F. Trevelyan spoke on the prevention of tuberculosis. The first paper in the Section for Child Study was by Mrs. H. Fisher, who discussed the value of voluntary effort in reducing infant mortality.

Degree Ceremonial at the University.

In connexion with the Congress a congregation of the University was held on July 19th, presided over by the Vice-Chancellor, for the purpose of conferring honorary degrees on Colonel T. W. Harding, Sir James Crichton-Browne, and Major Ronald Ross. Colonel Harding was presented by Professor Phillips in the following eloquent words:—

> I present to you for the degree of Doctor of Laws the President of the Health Congress now being held in this city, the freedom of which he has purchased with a great sum of public service. Thomas Walter Harding is a man so urbane that, like Cicero, we may rejoice that the *urbanus* does not become *rusticus* quod urbe exiit et animi causa rus amoenum habet. It is difficult, Mr. Vice-Chancellor, to compress into a few sentences the public record of one who has ever had a broad margin to his life and whose maxim appears to have been, The way to live is to be alive. But when homage has been paid to his public spirit that for which he would seem to deserve the highest praise is his recognition of the fact that beauty cannot exist without health nor health without beauty. The work which he began as a member of the library and art gallery committee he magnificently completed in the city square, where, if his effigy does not appear, one is yet tempted to say, Si monumentum requiris, circumspice. The work which he commenced as chairman of the sewage committee has prepared him for even more important service—for the membership of the Royal Commission on Sewage Disposal, for the chairmanship of the Belfast Health Commission, and of that Congress of which this Congregation may be regarded as a session. *Arcem facere e cloaca*—to treat the sewer as if it were a citadel—was a jest to the ancients; to Colonel Harding it has been a chief case of municipal government. Honoured by the King, by the corporation of this city and of the borough of Cambridge, he now is to be admitted by you as a graduate of the University of whose council he is already a member.

Professor A. S. Grünbaum, Dean of the Faculty of Medicine, then presented Sir James Crichton-Browne and Professor Ronald Ross. For the first he claimed the position of a pioneer in the treatment of the insane, saying that at the time when, now more than 40 years ago, Sir James Crichton-Browne initiated at the celebrated West Riding Asylum the systematic study of the pathology of insanity and of its therapeutic treatment such methods were unknown, the resulting conspicuous successes and discoveries being evidence of the efficiency of his youthful directorate during ten years. The stimulus to microscopical research, to which branch the present director, Professor Bevan-Lewis, has made such brilliant contributions, and to physiological investigation, which led to Ferrier's fundamental discoveries on cerebral localisation, arose, he considered, with Sir James Crichton-Browne, while as one of the original editors of *Brain* his articles were distinguished by an admirable delineation of clinical histories and pathological findings in unique and truthful word-painting. Of Major Ronald Ross, Professor Grünbaum said: "Few of us realise that in India alone nearly five million lives are the annual tribute exacted by malarial fever. The task undertaken by Major Ross 15 years ago was therefore no mean one—to discover how malaria passed from man to man and how it might be stopped. The mere systematic examination of the whole of many hundreds of mosquitoes in itself is no small feat; to do so fruitlessly and in the face of long-drawn disappointment, yet with intuitive hope, patience, and consciousness of ultimate success, are characteristics of the true investigator, found only in those pioneers of knowledge of whom each century produces but a handful." Professor Grünbaum concluded his oration with some graceful remarks upon Major Ross's literary achievements.

July 20th.

WEST LONDON POST-GRADUATE COLLEGE.—Dr. Reginald Morton has been appointed lecturer on radiology at this college. The general vacation course will commence on Monday, August 9th, at the West London Hospital, Hammersmith-road, W.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Chair of Surgery in the University of Edinburgh.

THE election to this important chair was made this week, when Mr. H. Alexis Thomson, assistant surgeon to the Royal Infirmary, surgeon to the Deaconess Hospital, and lecturer in surgery in the School of Medicine, was appointed professor of surgery in the University of Edinburgh. The appointment, as invariably occurs in these circumstances, was the subject of a very keen competition for the support of the curators.

The Women Students of Medicine in Edinburgh.

The students of the Edinburgh School of Medicine for Women gave an At Home some evenings ago to meet and say good-bye to "the finals"—that is, to the students who had finished the final examination. There was a large and a gay gathering of the students and their friends. The lecturers of the school were also represented. The gathering was held in the Women Students' Union. The toast of "The Finals" was proposed by the Dean of the Women's School, Dr. William Russell, and was responded to by Miss Mary Low, M.A., who receives her medical degree at the graduation ceremonial on July 23rd.

Graduation Ceremony at the University of Glasgow.

The summer graduation in Medicine at the University of Glasgow took place last week. The Vice-Chancellor, Sir Donald MacAlister, presided, and conferred degrees in medicine on 73 graduates, of whom two were recipients of the degree of M.D. At the close of the ceremony Professor John Cleland, who is about to retire from his chair, delivered his valedictory address. In the course of his address, which dealt largely with the relation of environment and heredity, he took occasion to refer to the vexed question of vivisection. He pointed out that the physician's and surgeon's art is indeed a noble profession, but only when ennobled by nobility of purpose. Nobility of purpose was the most effective stimulant to study, as well as to the performance of the duty at the bedside, and it ennobled the whole acquisition of study of every description. Even vivisection, that bugbear of unbalanced minds and of many who love to be thought kind-hearted, and to think themselves so—vivisection was made noble by the enormous amount of suffering which it prevented, and which could only be prevented by the knowledge so gained and beyond our reach by any other means. Professor Cleland went on to say that he had noticed in his friends who were obliged to resort to vivisection that they had a most praiseworthy fondness not only for man but also for bird and beast. They loved not bird and beast the less, but man more than their detractors practically did. Vivisection was a work to be pursued in the teeth of inclination for attainment of purposes of the highest order. The control of inclination and the subjection of it to preference of a higher end was not only necessary for such repulsive work, but was essential for the attainment of excellence of any description. No more obviously pleasurable occupation could be imagined than that of the artist, and yet the artist who allowed himself to be the slave of his humours and his moods would never attain an enviable success. In the case of the medical profession how much more obvious it was that natural inclinations should be under complete control. No weakness was allowable in practice; its effects might amount to a crime at the expense of the patient. He pointed out here to those who had just graduated that not only had they had already to do many things with equanimity which were repulsive to their natural feelings, but while it would be their duty to cultivate all kindness to the sufferers who might come under their care and toward their friends, still they would always have to be on their guard to repress the desire to please, and to be firm in decisions which might appear to them even hard and cruel. He went on to say that errors of all sorts might arise where there was neither ignorance nor unworthy inclination, simply from want of strength of purpose. Here an element of uncontrollable circumstance came in. Resolution was a quality which, like every other feature, was largely dependent on heredity, and heredity was not of our own making. It was an "unearned increment." Our power over our will was limited, and there was truth in the remark of Spinoza that we say that our will is free when we fail to discern the factors which are acting on it. But for all that we had some such power, and, like every other faculty, the power was increased by exercise.

Death of Mr. William Whitelaw, M.D. Glasg., F.F.P.S. Glasg., D.P.H.

Dr. William Whitelaw, medical officer of health of Kirkintilloch, died suddenly at Crieff Hydropathic Establishment on July 20th. For some years he had been subject to heart trouble, and had gone to Crieff for a rest and change. Dr. Whitelaw was a native of the burgh, where he was born 73 years ago. He was a Fellow of the Faculty of Physicians and Surgeons of Glasgow and a Diplomate in Public Health. He held the position of health officer since 1877 and was also visiting physician at Broomhill and Lenzie Convalescent Homes.

The Opening of the Argyllshire Sanatorium.

This institution, a gift to the County of Argyll from Mr. and Mrs. Tom Bullough of Fasnacloich, was formally opened at Oban on July 13th. The sanatorium is situated on the summit of a hill just behind the town of Oban. The ground on which the buildings stand was formerly a residential property consisting of about nine acres of land surrounding a moderate-sized house. The grounds are beautifully laid out with walks, drives, and shrubberies. They contain a good deal of well-grown timber, mostly coniferous, and are surrounded by pine woods. Magnificent views are obtained at different parts of the enclosure, views of mountain and loch characteristically West Highland. The former dwelling-house has been utilised as an administrative block, and in addition to providing accommodation for the matron and staff has dining rooms for the use of patients. Accommodation for the patients is provided in three single-storeyed blocks, the largest of which is of the well-known "butterfly" design, but with this innovation, the roof is flat, accessible by means of a wide staircase, and at each extremity of the tricorn platform there is a shelter for the use of patients, where, screened from the wind, they can bask in the sun when it is too near the horizon to strike the lower parts of the building. Another block, situated between the last and the administrative buildings, is to be used for any patients that it may be thought advisable to segregate. The third block contains a row of single-bedded rooms opening into a substantial verandah, which runs the whole length of the building. This is to be reserved for paying patients. All the buildings are elegant in design, but there has been no undue extravagance in their construction. The entire cost of the ground, buildings, furnishings, and appliances has been borne by the donors, so that it is no small gift that the public have received. The sanatorium is to be rate-supported, and the beds, with the exception of those set apart for paying patients, have been allocated to the various local authorities in the county who have agreed to contribute to the standing charges. A large number of guests were invited to the opening ceremony. Maclachlan of Maclachlan presided, and was accompanied on the platform by Mr. and Mrs. Macdougall of Gallanach, Provost Maclachlan of Oban, Dr. R. W. Philip of Edinburgh, Dr. W. Leslie Mackenzie of the Scottish Local Government Board, Mr. Neil Gillies the architect, and others. After a few preliminary remarks by the chairman, a silver key was handed to Mrs. Macdougall, who then declared the sanatorium open. Pulmonary consumption is very prevalent in the West Highlands, having been apparently imported within comparatively recent times from Lowland towns. Probably there is no part of Great Britain more favourable for combating this scourge by natural and easily applied methods, so that Argyllshire is to be congratulated on having been enabled to take a definite step in the war against tuberculosis in very favourable circumstances.

July 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Insanity in Ireland.

THE gist of the fifty-eighth report of the Inspectors of Lunatics in Ireland may be summed up in two paragraphs:

(1) the number of the insane under care in Ireland has increased from 250 per 100,000 of the population in 1880 to 547 per 100,000 in 1908; and (2) the total number under care in January, 1909, was 23,931, as against 23,718 on the previous Jan. 1st. A comparative study of Irish lunacy statistics shows that for the past 18 years the number of lunatics in proportion to the population has increased by over 50 per cent., while for the past few years there is a lowering in the rate of increase. The average rate of increase for the entire period from 1880 to 1908 was over 10 per cent., while for the past three years it was only 5 per cent. The actual increase in 1908 was 213 cases, and in 1907 it was 164, but it must be clearly understood that the 213 additional cases in 1908 do not represent an actual increase, as the numerical increase is mainly the result of transfers to asylums of the inmates of imbecile wards of workhouses. One point has also to be noted, and that is that the figures with regard to the insane in asylums come short of the entire insane population of the country in respect of the fact that they do not include those who reside in their own houses or with relatives or are wandering at large. It is calculated that if by a general census of the entire population a trustworthy estimate of the insane in these classes was formed, it would amount to 15 per cent. of the total. When, however, all allowances have been made, the fact remains that there has been a marked increase in the number of the insane in Ireland.

Hospitals' Tuberculosis Committee.

At a special meeting of the committee held on July 16th, Sir John W. Moore being in the chair, the Countess of Aberdeen stated that recently in Canada and the United States she had had the opportunity of meeting a number of workers in the anti-tuberculosis campaign which was being carried on so actively in America. She had been invited to address several meetings in New York, Boston, and Detroit, with the special object of describing how the crusade was being conducted in Ireland under the auspices of the Women's National Health Association. Great interest was manifested in the movement, and the result has been the formation of committees in the cities above mentioned for the purpose of arousing sympathy amongst American citizens of Irish parentage and of obtaining their practical coöperation in assisting the work in Ireland. As a result Mr. Robert Collier had already promised Lady Aberdeen £1000 per annum for five years, with the object of equipping and starting a tuberculosis dispensary in the city of Dublin in memory of his late father, Mr. P. J. Collier, and to be called after him. It was agreed by the committee that the Dublin hospitals should be communicated with, with the object of obtaining their coöperation in the work of the proposed tuberculosis dispensary.

Inspection of South Dublin Dairies.

At the fortnightly meeting of the South Dublin rural district council, which was held on July 14th, a report was submitted by Mr. James D. Richardson, M.R.C.V.S., veterinary dairy inspector, who stated that he had inspected the cattle-sheds and dairies in the district during the months of April, May, and June, 1909, and had found all the cattle in the district healthy, and a great improvement in cleanliness. The ventilation in several of the sheds had been greatly improved, and the limewashing had been done in some cases since the cattle went to grass. Better attention had been paid to removing the manure. He had given instructions for some of the sheds to be raised where air-space was not sufficient and where overcrowding had taken place, and for imperfect drainage to be rectified. The report was marked "satisfactory," which we may certainly consider it to be.

The Pollution of Belfast Lough.

It is announced that the Royal Commission on Sewage Disposal has undertaken to investigate thoroughly the difficult sewage problem in Belfast, and that the Commissioners will pay a preliminary visit to that city next week for the purpose of making certain observations and arranging the lines on which their subsequent investigations will proceed. They will deal with the *ulva latissima* growth which causes the foul smell on the foreshores of Belfast Lough, and other matters concerning the state of the lough. At the present time, when the wind blows from the lough inwards on the land on either side a horrible smell arises, and silver articles in neighbouring houses are blackened by the sulphuretted hydrogen emitted by this seaweed. It is merely playing with the question to advise, as has been done, the removal of this plant; what is wanted is the removal or special treatment of the sewage on which it feeds and grows. At the present time Belfast Lough is a vast open sewer, receiving the sewage from a city with a population of over 370,000 people, only a mere fraction of this vast sewage material being in any way treated.

July 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Operations on Diabetic Patients.

QUESTIONS connected with the performance of operations on diabetic patients recently engaged the attention of the Society of Paris Surgeons, M. Ozenne said that in a case of urgency he would operate on a diabetic patient even though there was a prospect of a fatal termination, but he would decline to interfere if there was no urgency, because it was impossible to foresee subsequent developments. It had been recommended that a diabetic patient should be kept under treatment for some time and that an operation should be performed where there were signs of improved health; there was some justification for this, but it was nevertheless known that operation wounds might aggravate the disease and the results could not be predicted. M. Verchère said that urgency was an essential condition for the performance of an operation on a diabetic patient. The causes of the severe symptoms which such patients might display after an operation were unknown. In the case of a man suffering from diabetes and gangrenous phlegmon of the scrotum an incision was made with the thermo-cautery at noon and he was dead in the evening, although his previous general condition had not led to any expectation of such a result. M. Verchère then quoted other cases of a like kind in support of his opinion. M. Paul Delbet said that he had operated on six patients with four recoveries. Speaking generally, he considered that operations might be performed on diabetic patients who bore up well under the disease, but not on those who were cachectic. He preferred general anæsthesia to local or spinal anæsthesia.

A Medical Lawsuit.

A Madame Koenig has sued Dr. Doyen in the Seine Tribunal for 30,000 francs damages on the plea that he operated on her unskilfully for spasmodic torticollis. The court accepted the expert evidence of Dr. Berger and Dr. Monod, and non-suited the plaintiff on the ground that Dr. Doyen had performed a proper operation.

Early Hydrarthrosis in Phlegmasia Alba Dolens.

At a meeting of the Obstetrical Society held on July 1st M. Brindeau said that hydrarthrosis of the knee, which was a common symptom of phlegmasia alba dolens, might appear at an earlier stage than usual and might then form an important diagnostic feature before the occurrence of the obvious signs of phlegmasia. He reported three cases in which the women complained only of pain in the groin and the calf of the leg; there was at that time neither œdema nor any indication of phlebitis, but the presence of hydrarthrosis led to the diagnosis of phlegmasia, the symptoms of which manifested themselves subsequently.

Faulty Positions in Articular Tuberculosis.

At a meeting of the Society of Paris Surgeons held on July 2nd M. Dupuy de Frenelle drew attention to the relation which abnormal positions of the limbs due to muscular contraction might have to Poncet's tuberculous rheumatism. He said that it was a common sign in a whole class of cases of subacute arthritis which did not involve the diagnosis of white swelling with all its therapeutic train in the adult. M. Judet said that in the absence of any disorder of the nervous system permanent muscular contraction taking effect either at the knee or at the hip-joint seemed in the child to be in relation with chronic arthritis which was almost always tuberculous; in the adult the question was more complex, and

the observed cases of dry arthritis which have secondarily developed into white swelling seemed to support Poncet's ideas.

Remote Effect of an Operation for Spina Bifida.

At a meeting of the Surgical Society held on July 7th M. Walther showed a male patient upon whom he had four hours after birth operated for spina bifida in the region of the sacrum. The patient, who was now 18 years of age, physically well developed and very intelligent, had until two years ago suffered from incontinence of urine and fæces, but the incontinence of fæces then came to an end. At present M. Walther was endeavouring to train the young man to control his bladder, for he believed that the condition was really a pseudo-incontinence due to inattention (*incontinence par paresse*). The muscular coat of the bladder reacted very well to galvanic stimulation.

Parkinson's Disease.

At a meeting of the Neurological Society held on July 1st M. Alquier described (1) the lesions found on necropsy of five cases of Parkinson's disease (paralysis agitans); and (2) the results of parathyroid opotherapy in six cases of the same condition. The examination of the central nervous system showed the existence of small lacunæ of perivascular disintegration in the tegmentum of the bulb with a normal state of the neighbouring nucleated cells and a slight diffuse neuroglial proliferation in the bulb. The muscles exhibited atrophy and vacuolisation or fibrillar division of certain muscular bundles. Except in the case of one female patient, parathyroid opotherapy brought about a decided and durable improvement as regards the pains, sleeplessness, and rigidity.

Serum Treatment of Cerebro-spinal Meningitis.

At a meeting of the Société Médicale des Hôpitaux held on July 2nd M. Dopter of Val de Grâce, speaking on the subject of the treatment of cerebro-spinal meningitis with antimeningococcic serum, gave a *résumé* of the cases hitherto published, together with such unpublished cases as he had a knowledge of. His statistics were based on 196 cases of cerebro-spinal meningitis treated exclusively with the serum prepared by him at the Pasteur Institute. Among these 196 cases there were 31 deaths, or an aggregate mortality of 15·9 per cent., but deduction of 12 cases which were moribund when the injections were given left 184 cases with 19 deaths, or a corrected (*defalquée*) mortality of 10·3 per cent. This mortality was a remarkable contrast to that of the cases treated by the ordinary methods, the average mortality of the latter being 60 or 70 per cent. In the opinion of M. Dopter this considerable reduction of the death-rate was due to the special manner in which he immunised the horses. At the beginning of the epidemic the serum which was issued for therapeutic use was obtained by immunisation according to the German and American methods, but at a later stage he immunised his horses only with living cultures introduced into the veins. A comparison of the therapeutic activity of these two serums was altogether in favour of the new form. With the original serum an aggregate mortality of 18·18 per cent. and a corrected mortality of 11·47 per cent. were obtained, while with the new serum the corresponding figures were respectively 10·93 and 8·06 per cent. The new serum therefore appeared to be more efficacious than its predecessor.

July 21st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Committee on Tuberculosis.

THE German Central Committee on Tuberculosis held its annual meeting at Berlin on May 22nd, the Secretary of State for the Interior being in the chair. The report for the preceding year, which was read by Dr. Nietner of Berlin, the general secretary, stated that the committee had paid 165,000 marks (£8250) on behalf of sanatoriums and 50,000 marks (£2500) to the Robert Koch fund for the prevention of tuberculosis. During the year 52,000 patients received attention in the sanatoriums, the average duration of treatment being three months. In the spring of 1909 there were 99 public sanatoriums, 34 private sanatoriums, and 18 sanatoriums for children, in addition to 79 institutions reserved for suspected cases of tuberculosis, for scrofula, and for convalescent children. There were also 92 Walderholungsstatten, or places where the patients spend the day in the open air, returning home at night. The workmen's insurance institutions (Landesversicherungsanstalten) have up to the present time paid 83,000,000 marks (£4,150,000) for the treatment of tuberculous patients under the Workmen's Insurance Acts. Dr. Hamel presented a report on the prevalence of lupus in Germany, as shown by the collective investigation which was carried out as on Nov. 1st, 1908, at the instance of the Imperial Health Office. Some particulars relative to this investigation were given in THE LANCET of Nov. 7th, 1908, p. 1412. It was stated that 18,000 medical men, or 57 per cent. of the medical profession in Germany, had answered the questions contained in the inquiry forms; and that 11,354 cases of lupus were registered. The disease was apparently more frequent in Western and Southern Germany than in the east and north. In this respect there was a striking coincidence with the occurrence of pulmonary tuberculosis. It was found that on an average 68 per cent. of the patients belonged to the female sex, but during childhood the boys seemed to be more liable than the girls to contract the disease. Dr. Kirchner recommended that more efficacious measures should be taken against lupus. He advised that pamphlets on lupus, written in a popular style, should be distributed at the public vaccination stations and at the conscription offices, and that lectures on the subject should be delivered in the schools. He further proposed that inexpensive lodgings should be provided where patients coming from the country might reside during their treatment in town. Many of these patients did not require sanatorium accommodation, and yet it might be difficult for them to obtain rooms in ordinary hotels and boarding houses.

Health of the Navy.

The report on the health of the German navy, compiled by the medical department of the navy states that the number of sick has somewhat increased since last year, being 500 per 1000, as compared with 714·5 per 1000 in the British navy. The highest sick rate was recorded in East Africa, where 992·8 per 1000 of the men were on the sick list. The duration of treatment was on an average 18·3 days. The duration of sickness was on an average 8·5 days on board ship and 9·8 days on shore, but in the Kiautchou territory it was 15·3 days. The daily number of patients was 23·4 per 1000 on board ship and 28·9 per 1000 on shore. Of the recruits, 934 men—i.e., 23 per 1000 of the naval force—had to be discharged from the service at once, the majority of them for cardiac diseases. After a longer time of training 172 men—i.e., 4 per 1000—had to be discharged chiefly on account of diseases of the eyes, mental diseases, and cardiac diseases; 99 men were discharged as partially invalided, and 406 as completely invalided. Diseases of the heart and lungs continued to be the most frequent cause of invaliding, although the percentage of cardiac diseases had undergone a considerable diminution. Whilst in 1895 there were 5 per 1000 discharged from the service for cardiac diseases, this number had decreased to 2·46 during last year. There were 65 deaths, giving a mortality of 1·5 per 1000. These deaths included ten from tuberculosis, seven from septicæmia, five from appendicitis, and three each from scarlet fever, enteric fever, insolation, and malignant tumour respectively; there were 14 cases of suicide, three of them among officers.

Bilharzia Disease.

At a meeting of the Medical Society Dr. Pfister of Cairo and Dr. Goebel of Breslau communicated a paper on the Bilharzia Disease, which is so prevalent in Egypt. Dr. Pfister showed specimens of the parasite distomum hæmatobium. Dr. Goebel said that the disease was caused by the deposition of the eggs of the parasite within the vessels of the mucous membranes of the bladder, the intestine, and the female genital organs. In the bladder they caused cystitis with proliferation of epithelium. One case of polypus and a few cases of cancer and cancroids were observed in association with the disease. The infarction of the urethra produced by the eggs caused stricture with consecutive fistula of the urethra and swelling of the scrotum and the

perineum having the appearance of elephantiasis. The same condition might be found within the ureter and the pelvis of the kidney. The prevalence of calculus in Egypt was also to some extent caused by this parasite. In the intestine the eggs deposited in the submucous tissue produced enteritis, polypi, and infiltrations of the mesocolon; in the vulva and vagina they caused sclerosis. The eggs might also be conveyed by the blood into the liver, the lungs, the spleen, the pancreas, and other viscera, and by the lymph-stream into the mesenteric glands. In the discussion Professor Orth showed microscopical specimens of a similar parasite prevalent in Japan, the schistosomum Japanicum, which was conveyed through the portal vein to the intestines, the lungs, and the brain.

July 19th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Professor Carlo Ruata.

BEARING a name long and honourably known to readers of THE LANCET, Dr. Ruata has just received from his students in the University of Perugia an attestation of their indebtedness to him as professor of materia medica—a post which he has held with steadily enhanced distinction for 25 years. At a jubilee meeting convened *ad hoc*, at which the Rector of the University, Professor Icilio Tarducci, who holds the chair of the Institutes of Roman Law, Dr. Giuseppe Bellucci, professor of chemistry and Dean of the Medical Faculty, and the President of the Umbrian Pharmaceutical Association represented the Senatus, the Medical Faculty, and the profession, two of the leading students, Signor Rosanna and Signor Peiro, opened the proceedings with an address, followed by the presentation of a beautifully illuminated parchment and a gold medal in testimony of the esteem and affection of pupils past and present. Other speeches ensued, the spokesmen being the Rector, the Dean of Faculty, and the Pharmaceutical President above named. Professor Ruata made a touching and effective reply, inspiring the audience (which included many of the non-academic public) with the hope that he will live to celebrate his golden jubilee in the seat of learning which, thanks to him and his colleagues, maintains so worthily the best traditions of the Umbrian school.

President Taft and the Italian Red Cross.

Another interesting acknowledgment of good service vouchsafed is that of the Croce Rossa Italiana, which has bestowed on the President of the United States its gold medal, with diploma of honour, in testimony of the prompt and effective assistance rendered in the Siculo-Calabrian cataclysm by the American Red Cross, over which Mr. Taft presides. The President, accepting these testimonials in the name of the American Red Cross, dwells not only on their artistic beauty but still more on the proof they afford of the humanitarian spirit which makes the "whole world kin" in presence of a dire calamity. In organisation and practical working both associations have not a little to learn from each other, while in the spirit that animates them and in the alacrity with which they set themselves to their humanitarian task they are honourably identical.

The Immoral Press.

The extent to which "the great sin of great cities" is impairing the virility of the Italian youth—shown, *inter alia*, in the physical degeneration that causes 40 per cent. of rejections at each periodical levy for the army—has at last aroused public opinion; and a petition, signed by 40,000 ladies and presented to Parliament, marks the beginning of active measures for the repression of the obscene literature, printed and pictorial, over which children of tender years and of both sexes may be seen gloating at every street corner in the centres of population. In acknowledging receipt of the petition, Members of Parliament of every shade of party were unanimous in condemning the provocations to lust and to premature indulgence in the marital privilege held out to Italian youth. One or two ultra-liberal doctrinaires indeed raised the objection that suppression by the State of literature of any kind is an interference with "liberty of the subject"—that plea which would arrest legislation against the adulteration of food or compulsory vaccination—but these protesters were heard without sympathy or support. Meanwhile, the true remedy lies, in the last resort, with the public itself, but for whose demand the pornographic caterer would have to stop his supply. It is, indeed, an ethnological distinction between the Latin and the Teutonic races that whereas the comic literature of the former deals apparently in nothing else but breach of the marriage-tie, that of the latter finds its material in perfectly pure sources—the British *Punch*, for instance, teeming with mirth-provoking incident and illustration undepraved by any *double-entendre* or lascivious suggestion such as makes the beginning, the middle, and the end of its Italian or French counterparts.

"Maxima debetur puero reverentia,"

said the great Roman satirist, anticipated in that injunction by Horace who forsaw the main cause of the decline and fall of the Empire in the infraction of the same.

"Fecunda culpae secula nuptias
Primum inquinavêre et genus et domos,
Hoc fonte derivata clades
In patriam populumque fluxit."

The Weather.

Among the "mirabilia" of this "mirabilis annus" not the least striking or memorable has been the caprice, the vicissitudes of the weather and the consequent harm wrought to health and to agriculture. Here in Rome we are having autumn in midsummer, the temperature oscillating between 68° and 70° F., while in the Italian Switzerland the hotels are empty, and at Vallombroso the few who have ventured to occupy them have been sending down to Florence for their winter clothing. From the Julian Venetia in the north to the Abruzzi and Calabria in the south we hear of nothing but rainfall, taking the form of snow in the uplands, or violent hail-storms, or "burrasche" (tempests), culminating in "nubifragi" (water-spouts). The damage to the crops is appalling—whole vineyards destroyed, with rivers overflowing their banks and flooding the arable lowlands. Add to this a return of earthquake shocks on the Siculo-Calabrian littoral and some notion may be formed of the misery, present and future, of our sorely visited Italy.

July 16th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Public Instruction on Medical Subjects.

THE Board of Public Instruction on Medical Subjects of the American Medical Association reports that there are many difficulties in the way of organising a system of carrying out its objects in a judicious manner. The ordinary newspaper rejects articles which it is not allowed to revise, but the revision usually results in the elimination of the useful matter or the insertion of popular fads or suggestions which render the article worthless and oftentimes harmful. The plan of procedure for the present is to limit the subjects for popular articles to a few of the most important, such as enteric fever, diphtheria, variola, dysentery, gastro-enteritis of children, ophthalmia neonatorum, malaria, meningitis, tetanus, rabies, cholera, and yellow fever. These subjects have been selected chiefly because they belong to the general infectious diseases which are more or less prevalent throughout the United States. Popular articles on these subjects will be prepared, and as each article is completed will be put in pamphlet form and kept in stock in a properly organised bureau and be available for physicians all over the country. In the event of a local epidemic at any point, as of enteric fever or other infectious disease, these pamphlets may at once be dispatched to those districts and placed in the hands of the people through the agency of physicians or other channels of distribution. The Board also created an auxiliary body consisting of one representative from each State, and each member is required to ascertain all matters in his State which are proper subjects for popular discussion, and to supervise in a general way the methods of reaching and educating the people. All articles

compiled by the Board of Public Instruction will appear as unsigned documents emanating from the authorised body of the American Medical Association.

The Regulation of Experiments on Animals.

The Council of the Defence of Medical Research, which was established in 1908 by the American Medical Association, reports that the larger medical laboratories of the country have rules posted stating the conditions and expressing the spirit in which animal experimentation was to be conducted. The council has made a collection of these rules, summarised and revised them, and sent them to all laboratories which had reported that animal experimentation was carried on within their walls. These rules are five in number and in general provide as follows: 1. Dogs and cats shall be retained the usual time of the "City Pound," and when claimed returned to their owners. 2. They shall be kindly treated, properly fed, and kept in the best possible sanitary condition. 3. No operations shall be made without the sanction of the director, who is responsible for the problems studied, and the procedures used. 4. In any operation likely to cause greater discomfort than that attending anæsthetisation the animal shall first be rendered incapable of receiving pain and shall be maintained in that condition until the operation is ended. Exceptions to this rule will be made by the director alone and then only when anæsthesia would defeat the object of the experiment. In such cases an anæsthetic shall be used as far as possible and may be discontinued only so long as is absolutely essential for the necessary observations. 5. At the conclusion of the experiment the animal shall be killed painlessly. Exceptions to this rule will be made only when continuance of the animal's life is necessary to determine the result of the experiment. In that case the same aseptic precautions shall be observed during the operation and so far as possible the same care shall be taken to minimise discomforts during convalescence as in a hospital for human beings. These rules have been adopted in a number of laboratories, and it is hoped that they will be made the regulations for research in all such institutions.

Practice by Tuberculous Physicians.

The board of medical examiners of the State of Oklahoma has resolved not to grant licences to physicians afflicted with tuberculosis. The Section on Hygiene and Sanitary Science of the American Medical Association in taking action upon the decision of the Oklahoma board declares that it has been sufficiently demonstrated that the clean, conscientious, and trained consumptive is not a menace to his fellow men; that the scientific knowledge of tuberculosis has been vastly increased by physicians afflicted with that disease; that in this country and abroad tuberculous physicians, more than any other class, have advanced the best methods of cure of tuberculosis and have been most active in the tuberculosis propaganda; and that the Section deeply deplores the action of the Oklahoma board and expresses the profound wish that it will withdraw this restriction and open the State again to honourable physicians though they may be afflicted with tuberculosis.

The Adulteration of Imported Drugs.

Dr. Rusby, chief of the Bureau of Chemistry of the United States Department of Agriculture, reports to the Pharmaceutical Association that large quantities of the imported drugs are adulterated. On careful inspection he finds that many of these adulterated drugs which are rejected at the Port of New York are afterwards taken back to the foreign port from which they were originally exported and reshipped to some other port than New York, and thus gain admission to the markets of this country. Dr. Rusby gives a large number of examples of adulteration. Henbane leaves contain 28 per cent. by weight of sand, undoubtedly intentionally added; anise contained 25 per cent. of sand; cumin fruit had 25 per cent. of stems and chaff; henbane was found in stramonium and stramonium in henbane; benzoin contained chopped bark and sand in amount of 40 to 50 per cent. in weight; ipecachuana 30 to 50 per cent. of ground olive pits, and so on. Dr. Rusby attributes this traffic in spurious and adulterated drugs to the small retailers who always seek cheap articles, and are too ignorant to detect the adulteration or too careless and indifferent to take interest in the quality.

July 12th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending May 22nd show 3614 deaths, compared with 4578 in the week preceding. Bombay Presidency reported 318, Bengal 128, the United Provinces 437, the Punjab 2250, and Rajputana 420. For the week ending May 29th Bombay reported only 231 deaths for the whole Presidency, and of these 138 were in Bombay city. Similarly, in Bengal, out of 103 deaths 87 were in Calcutta. In the United Provinces the deaths were 219, of which 69 occurred in Ballia district, 36 in Muttra, and 29 in Unao districts. The Punjab heads the list with 1509 deaths, but 484 of these were included in a fortnight's return from Patiala State. The Ferozepur district, with 327 deaths, and Ludhiana district, with 165, are still suffering somewhat severely. It is hoped that the disease will die out during the current month. In the other provinces there is little or no plague, and the epidemic is not likely to revive until the cold weather. The plague prevention operations in Lucknow city and district for the past season have been extremely successful. Captain Illius, I.M.S., was special medical officer in charge of inoculation, and Captain Bignell, of the 9th Gurkha Rifles, was in charge of rat destruction. There were 14 inoculation centres, and the city was divided into 20 circles for the purpose of rat destruction. Work started on Oct. 1st, 1908, and went on until April 1st last, when the special officers reverted to their posts. Work was, however, continued for another two months and has just been closed. There have been no plague cases in the city or district, three that occurred having been imported cases from Cawnpore. The total number of rats killed during the period amounted to 467,000 at a cost of Rs.3,600, and the total number of persons inoculated was 26,800 at a cost of Rs.1,900. The plague returns for the week ending June 5th show 1698 deaths, compared with 2319 in the week preceding. Bombay Presidency reported 154, Bengal 105, the United Provinces 168, the Punjab 1131, Burma 50, and Rajputana, 65.

Cholera at Bombay.

The past week (June 5th) has again been marked by a lessened mortality in Bombay from all causes, except cholera, from which the city again had to suffer some cases of imported disease from outlying districts. Cholera has again broken out at Nasik and—in common, probably, with many other centres—Bombay has to suffer from imported cases. During the seven days ending June 5th there were 17 cholera attacks in the city and 11 deaths. Eight of these cases came from Nasik. On June 9th there were three attacks and four deaths, and of these two were recent arrivals from Nasik. The total mortality from all diseases for the week in Bombay was 545, which shows a drop of 85 compared with the last week and of 97 compared with the corresponding week of last year. Plague accounted for only 56 deaths, which, compared with last week's returns, is a drop of more than 50 per cent. The figure for last year was 74 and the five-yearly mean is 135. Small-pox deaths were 10, as against 15 last week, 16 last year, and a mean of 11. The total mortality of the city gives a death-rate of 28·98 per 1000. The figure for the five years before plague made its appearance was 32·14 at the same time of year, and the mean rate for the past five years is 45·18.

Cholera at Lucknow.

Two fatal cases of cholera occurred in La Martinere Boys' School, Lucknow, on Saturday, June 5th. Death was due in each case to heart failure. Most careful disinfection has been carried out in every part of the school premises likely to have become in any way contaminated. No further seizures have occurred. In connexion with the outbreak in Lucknow the municipal staff has been strengthened all round, and the work of disinfection of wells and drains is being carried out in a systematic manner. A warning has been issued against drinking water from the Gumti, which is believed to be a possible source of the infection.

The Amir of Afghanistan.

The Amir's illness from gout does not appear to have

reached a very acute stage, but he has been suffering at intervals for some months past, and hence his desire to have the services of an English medical man. Major H. G. Melville, I.M.S., professor of materia medica at Lahore Medical College, who has been specially selected by the Government of India, should reach Kabul about a fortnight hence, and his stay there will probably extend over some weeks. The Amir has given orders for the usual military escorts furnished in the case of Europeans travelling to Kabul to be provided. The journey from Landi Khan onwards is likely to be made expeditiously, as all arrangements on the road will be completed in advance.

Rinderpest in the United Provinces.

Cattle disease continues to prevail widely in the United Provinces, and rinderpest in particular is causing serious losses along the line of the Jumna. Landholders have been reminded that they can secure almost complete immunity against this disease by protective inoculation, which will be carried out gratis by the veterinary assistants employed by the district board. The objections raised to this method of protection on its first introduction are rapidly disappearing as the people gain experience of its utility, and landholders will find it to the advantage of their estates to take some pains to overcome prejudices where these still survive.

June 16th.

Obituary.

RAYNER WINTERBOTHAM BATTEN, M.D. LOND., F.R.C.P. LOND., J.P.,

CONSULTING PHYSICIAN TO THE GLOUCESTER ROYAL INFIRMARY.

Dr. R. W. Batten died at his residence, Brunswick-square, Gloucester, on July 15th, in his seventy-fifth year. Dr. Batten was born at Devonport, and was the grandson of the Rev. W. Winterbotham, a well-known Nonconformist minister, who was convicted at Exeter in 1793 for preaching sermons which were deemed by the Government of the day to be seditious, and was condemned to pay a heavy fine and to undergo four years' imprisonment. Dr. Batten went to Gloucester in the early "sixties"; he was for 33 years physician to the Gloucester Infirmary, and at the time of his death was consulting physician to the institution. He was highly respected and esteemed in Gloucester, and was the oldest magistrate of the city but one, having been appointed in 1882; he was a charity trustee, and had been a governor of the Endowed Schools and a member of the Council of the British Medical Association. Dr. Batten was an enthusiastic West-countryman, and rendered very valuable service to the Gloucester and District branch of the Devon and Cornwall Society. He was a prominent Nonconformist, a staunch teetotaler, and a member of the Gloucester Musical Festival executive committee. Dr. Batten had a distinguished career and was much sought for in consultation by his professional *confrères*. He was a good friend to the poor, and will be much missed in Gloucester and the district. He leaves a son, Mr. Lauriston Batten, K.C., and two daughters.

JOSEPH POWELL SWANWICK, M.R.C.S. ENG., L.S.A.

THE death of this veteran occurred on July 14th, three months before the completion of his eighty-fourth year on Oct. 18th. He was born in 1825 at Prestbury where he went to school and later at Alsager. He studied medicine at King's College, living his first year as a student with Mr. (later Sir) William Bowman. About 1847 he was apprenticed to Dr. Lallemand of Macclesfield; from 1849 to 1851 he was "clerk to the physicians" of the Manchester Royal Infirmary, after which appointment he married Miss Harriette Pritchard of Macclesfield and settled in practice at Over (Winsford, Cheshire), and later at Congleton until his retirement in 1865 owing to injury in a fall from his horse. After a period of helplessness he took the house and farm in which he died, as a tenant of St. John's College, Cambridge. He was an exceedingly capable and hard-working practitioner, full of resource all round, with good surgical judgment, enterprise, and operative address. He enlarged and improved his originally small and cramped farmhouse and outbuildings, made his farm pay, and usually got in his hay before his neighbours. With a natural aptitude for drawing, he taught himself in middle life to paint in oils and water-colours, and drew many pictures of English, foreign, and especially Egyptian landscapes, derived from three winters spent abroad. He was a capable critic and instructor of pictorial art, as the work of his younger surviving son bears witness. His life was spent in overcoming formidable obstacles. Having been suddenly deprived of health and strength he found both again in country life and continuous work, supplemented by reasonable leisure and intellectual occupations.

CHARLES HARTLEY, M.R.C.S. ENG., L.S.A.

Mr. Charles Hartley of Bishop's Stortford, Herts, passed away on July 15th, aged 60 years. He was the eldest son of the Rev. Charles Hartley, who was for many years the rector of Stocking Pelham, Herts, and afterwards incumbent of Little Dunmow, Essex. Born at Porthleven in Cornwall, he spent most of his early years at Stocking Pelham, and was educated at Felsted School. He became a student at Charing Cross Hospital, having been a pupil of the late Mr. Brickwell of Sawbridgeworth, for whose memory he retained ever after an intense veneration. He qualified in 1873, and, after holding the house surgeoncy at Charing Cross, took a resident appointment at the Ventnor Hospital for Consumption, where he laid the foundation of that excellent knowledge of chest disease which he displayed in after life.

From Ventnor he went to Lynton, North Devon, taking at the age of 24 a widespread and arduous practice. His nearest medical neighbour was almost 20 miles distant and his area of work included a large part of Exmoor. Shortly after settling at Lynton he married Miss S. M. Ward, the daughter of the Rev. John M. Ward, vicar of Clapham, Yorkshire. After seven years' hard work in North Devon he removed to Great Dunmow, in Essex, where he practised for over ten years, and when he decided to go to Bishop's Stortford in 1891 the regret of his patients expressed itself in a largely signed and handsome testimonial.

Mr. Hartley's best work was, perhaps, done at Bishop's Stortford. Here he practised for 18 years, and here his strong personality and the excellence of his opinion won the confidence of all classes. He was a general practitioner of a very high type. A keen observer and possessed of excellent judgment he was remarkably astute in diagnosis. His opinion was invariably formed only after careful and thorough examination. He was always on the look-out for "something behind" (to use his own expression), and he never allowed haste or pressure of work to interfere with due deliberation. While his formed opinion was seldom at fault he always welcomed assistance when in difficulty, and these characteristics combined to make him emphatically a "safe" man. In treatment he was particularly happy. A continuous study of the idiosyncrasies of his patients and of the adaptability of various forms of treatment to their individual needs, not only made his routine practice eminently successful but enabled him in many instances to prophesy the result of a line of treatment suggested by others with an accuracy that appeared intuitive. Apart from all this, he was emphatically the friend of his patients, loyally respecting their confidence, and entering into their griefs and troubles with a depth of sympathy that was apparently inexhaustible.

For the last ten years of his life Mr. Hartley was greatly troubled with multiple chronic arthritis of a most painful nature, yet, lame and suffering, he steadily continued work. Even when, during the last two years of his life, attacks of abdominal pain, for which no cause could be found, were added to his troubles, he still made light of his sufferings and worked with his usual thoroughness to the very end. On June 29th he was seized with acute intestinal obstruction, and with his characteristic cheerful courage acquiesced in immediate operation. When he learned that, although the obstruction had been relieved, a malignant growth existed in the splenic flexure, which was, in the opinion of his advisers, removeable, he faced without flinching the prospect of a second operation, with full knowledge of the risk it entailed. The growth was removed a fortnight later, but he never recovered from the shock and died within 48 hours. He leaves a widow, son, and daughter.

WILLIAM BROWN, L.R.C.P. EDIN., F.R.C.S. EDIN., M.R.C.S. ENG.

Mr. William Brown died on July 14th at Edinburgh, where he had resided since his retirement last year from the office of medical officer of health of Carlisle after holding that position for 25 years. His death will be mourned by every intelligent inhabitant of the town for which he laboured for a quarter of a century. Carlisle owes much to him for the vast improvements which have taken place in its sanitary condition during that period, and which have made the town one of the healthiest in England. Mr. Brown received his medical education at the University of Edinburgh. He came to London in the year 1872, when he became a Member of the Royal College of Surgeons of England. In 1873 he became a Licentiate of the Royal College of Physicians of Edinburgh, and in 1880 a Fellow of the Royal College of Surgeons of Edinburgh. Shortly after qualification he was appointed house surgeon at the Cumberland Infirmary and subsequently assisted his elder brother, the late Mr. Robert Brown, in private practice in Carlisle. In 1883 he was appointed medical officer of health of Carlisle, and by his influence several insanitary private slaughter-houses were abolished and a public one erected in their place. This measure, together with the abolition of old ashpits and pigsties in the town, practically resulted in the extinction of a virulent form of typhoid fever which at one time was epidemic in Carlisle. He also made some original investigations with regard to tuberculosis, and the results of these investigations were embodied in the first report of the Royal Commission on Tuberculosis in 1897, while he instituted a systematic veterinary inspection of dairy cattle. When last year he retired from his office the corporation of the town appointed him consulting medical officer of health in recognition of his past services.

Mr. Brown was keenly interested in ophthalmology and for many years maintained a private dispensary where a large number of patients suffering from diseases of the eye were treated gratuitously. In 1886 he was appointed assistant surgeon on the staff of the Cumberland Infirmary, and he was for many years honorary surgeon to the Carlisle Dispensary. He was a Fellow of the Royal Microscopical Society and a vice-president of the Carlisle Microscopical Society. In addition to the very able reports which he presented to the corporation of Carlisle as medical officer of health his contributions to medical literature included articles to medical journals on an Outbreak of Milk Typhoid in Carlisle, Human and Bovine Tuberculosis in Carlisle, and Lesions in Bovine Tuberculosis, the latter of which he contributed to the Transactions of the British Congress on Tuberculosis in 1901. Mr. Brown leaves a widow and three daughters.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Boudet, formerly professor of clinical medicine in the University of Lyons and Associate of the Paris Academy of Medicine.—Dr. Justin Steer, professor of medicine in Washington University, St. Louis.

Medical News.

UNIVERSITY OF LEEDS.—At examinations held recently the following candidates were successful in the subjects indicated;—

EXAMINATIONS FOR THE DEGREES OF M.B., CH.B.

FIRST EXAMINATION.

Part II., Biology.—Leonard Henry Butler, Charles Marsh Gozney,* Harry Rylands Knowles,* Harry Abram Sinson,* Herman Louis Taylor,* John Wilkinson,* and John Wright.*

SECOND EXAMINATION.

Part I., Anatomy and Physiology.—Y. Elliott.

Part II., Materia Medica and Pharmacy.—H. Angel, J. H. Blackburn, J. Ferguson, G. W. L. Kirk, F. H. Kitson, G. P. Mellis, J. C. Metcalfe, M. Peto, J. J. Pickles, S. Samuel, H. P. Shackleton, and H. W. Symons.

FINAL EXAMINATION.

Part I., Pathology and Bacteriology, Forensic Medicine and Toxicology, and Public Health.—C. S. Brown, J. P. Brown, J. B. Fisher, W. S. Hart, H. N. Ingham, J. B T. Keswick, H. S. Raper, B. A. Slocombe, G. V. Stockdale, and N. S. Twist.

Part II., Medicine, Surgery, Obstetrics, and Therapeutics.—J. N. L. Thaseby (first-class honours), H. L. Flint (second-class honours), R. E. Smith (second-class honours), S. M. Hepworth, and W. Shaw.

Diploma in Public Health.—W. Carnes.

DIPLOMA IN DENTAL SURGERY.

Part I., Anatomy, Physiology, and Dental Anatomy and Physiology.—H. R. Bentley and C. F. Salt.

Part II., Surgery, Dental Surgery, Pathology and Bacteriology, and Operative Dental Surgery.—C. F. Salt and F. C. Wilson.

* These students have completed the examination.

UNIVERSITY OF DURHAM.—At examinations for the degree of Bachelor of Medicine held recently, the following candidates were successful:—

FIRST EXAMINATION.

Elementary Anatomy and Biology, Chemistry, and Physics.—Eric Johnson and Lionel Everett Markham, College of Medicine, Newcastle-upon-Tyne; Roger Paul Ninnis, Guy's Hospital; and John Logan Pringle, Frank Blair Robson, James Stewart Soutter, and Gordon Stewart Woodman, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—George Albert Berkeley-Cole, Garfield Carse, Cyril Duncan, Idris David Evans, Robert Lacy Kitching, Reginald Arthur Hooper, Nora Murphy, Frederick John Nattrass, and Carinna Augusta Barry O'Neill, College of Medicine, Newcastle-upon-Tyne; Grace Winifred Pailthorpe, London School of Medicine for Women, and Evelyn Ritson, Arthur Sutcliffe, and Cedric Overton Shackleton, College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy and Biology.—Walter Lessey, Edinburgh School of Medicine; Ivan Miller Pirrie, College of Medicine, Newcastle-upon-Tyne; and Felix Stephens Rood, M.R.C.S., L.R.C.P., University College, London.

Elementary Anatomy.—George Edward Stephenson, College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—Ronald Greig Badenoch, Edgar Babst, Joseph Jopling Brown, Theonie Reneé Burrell, and Joseph Wilfrid Craven, College of Medicine, Newcastle-upon-Tyne; Evelyn Amy Constable, London School of Medicine for Women; Sarah Louisa Green, Norman Hodgson, James Kerr, Francis James Lidderdale, John George Ogle, Charles O'Hagan, Lionel Glover Pearson, Fred Phillips, B.A., Thomas Copeland Storey, Eleanor Walkinshaw, and Samuel Knibb Young, College of Medicine, Newcastle-upon-Tyne.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At recent examinations held in Glasgow the following passed their respective examinations:—

First Examination.—Roland John Croxford, Glasgow; George Alexander Grandsoult, West Indies; John Vincent Duffy, Belfast; William Cowan Holburn, Cambuslang; William Bannatyne, Glasgow; Alexander Watson, Rutherglen; Robert Clark Craig, Renfrew; and James Williamson, Paisley.

Third Examination.—Haripado Chatterjee, India; William Wood Shorten, Cork; Morris William Rees, Glasgow; Leon Galdemar, India; John Boyd Michie, Glasgow; James M'Cusker, Neilston; John Miller Chrystie, Glasgow; Robert Henry Jones, Glasgow; Maurice Cameron Anderson, Edinburgh; William Edward Hopkins, Carnarvon; and Robert Anderson, Beith.

Final Examination.—Thomas Sholto Douglas, Greenock; William Edward Hopkins, Carnarvon; William John Taugher, Canada; Angus Cameron Livingston, Glasgow; James Young, Paisley; Ernest Wardman Wilbourne, Nottingham; Patrick James Taaffe, Glasgow; William Browne, Belfast; Seringapatam Narasimba Sreenivasa Aiyengar, Mysore; George Munro MacLeod, Glasgow; Erachshaw Dinshaw Shroff, Bombay; and Shivnarain Rozdon, Simla.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bonn:* Dr. H. Reichenbach of Breslau has been appointed Extraordinary Professor of Hygiene.—*Clausenburg:* Dr. Josef Imre has been appointed Professor of Ophthalmology, in succession to Dr. Hőoz.—*Freiburg:* Dr. H. Bäumler, Professor of Special Pathology and Therapeutics and Director of the Medical Clinic, is about to retire at the close of the present session.—*Giessen:* Dr. Arthur Weber, Assistant to Professor Voit, has been recognised as *privat-docent* of Medicine.—*Halle:* Dr. Richard Freund, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Professor.—*Kharkoff:* Dr. S. Grusdeff of St. Petersburg has been appointed Professor of Clinical Medicine.—*Munich:* Dr. R. Rössle, *privat-docent* of Pathological Anatomy, has been promoted to an Extraordinary Professorship.—*Strasburg:* Dr. O. Looss has been recognised as *privat-docent* of Odontology.

THE ROYAL DENTAL HOSPITAL.—The committee of management at its meeting on July 15th unanimously decided to invite Dr. Dudley W. Buxton to accept the lectureship founded to meet the regulations for future dental students by the Royal College of Surgeons of England.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on July 14th, Dr. Blandford, the President, being in the chair. 21 directors were present. The death

of a member of the society was reported and seven new members were elected. The sum of £1255 was voted for paying the half-yearly grants to the 48 widows and 13 orphans on the books of the society. The widow of one of the members applied for relief, her husband, owing to ill-health, having been unable to make any provision for his widow; a grant at the rate of £50 per annum was voted. The society only grants relief to the widows and orphans of deceased members. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20-mile radius of Charing Cross. The subscription is 2 guineas a year, or a member may become a life member by paying a sum fixed by the by-laws of the society. The invested funds now amount to over £100,000. Application forms for membership and full particulars may be obtained by applying to the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W. The next election takes place on Oct. 13th. Application forms must reach the secretary on or before Sept. 22nd.

PUBLIC HEALTH IN JAMAICA.—The last annual report of the Registrar-General of Jamaica gives much statistical information relative to the social condition of the colony during the twelvemonth from April 1st, 1907, to March 31st, 1908. The last census was taken in 1891, and the use of estimated numbers for the total population and other bases of statistics has therefore been necessary for 17 years. The estimated population of the island on March 31st, 1908, was 835,799. The proportional marriage-, birth-, and death-rates are calculated on a mean population of 834,012 estimated as on Sept. 30th, 1907. The marriages registered in the year numbered 6251, being at the rate of 7·4 marriages per 1000 of the estimated population. Of these marriages 21 were civil marriages, the remaining 6230 being solemnised by ministers of 17 different religious denominations. A remarkable feature in connexion with this subject was the impulse given to matrimony by the terrible earthquake which devastated Kingston on Jan. 14th, 1907. Since 1903 there had never been more than 988 marriages in any quarter of a year up to the end of the December quarter in 1906, but during the March and June quarters of 1907 the numbers rose to 2797 and 2319 respectively. During the year under consideration there were 29,210 births, giving a birth-rate of 35·0 per 1000, which is the lowest since 1886–87, when the rate was 34·7 per 1000. As usual, the illegitimacy rate was rather high when regarded from a European point of view, being 61·7 per 100 births, the lowest rate since the year 1896–97, when it was 61·1 per 100. In this respect the parish of St. Andrew seems to be the most virtuous, having an illegitimacy rate of only 48·8 per 100, whereas the parish of St. Thomas is at the other extremity of the scale with a rate of 70·5 per 100. The number of deaths registered during the year was 23,672, giving a death-rate of 28·3 per 1000, which is the highest death-rate recorded in the 30 years of registration. The rate for the preceding year was 26·2 per 1000. Of the 23,672 deaths, 27·6 per cent. were deaths of children under one year of age, and 44·5 per cent. were deaths of children under five years of age. With respect to the causes of death, the largest number under any detailed heading was 7422 tabulated as "ill-defined and not specified causes." The deaths from specified causes included 252 from influenza, 223 from enteric fever, 1083 from diarrhœa, 635 from malarial fever, 4814 from undistinguished kinds of fever, 30 from leprosy, 30 from yaws, 167 from pulmonary tuberculosis, and 1284 entered under the heading of "phthisis (not otherwise defined)." No death from small-pox was recorded.

THE BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual meeting and dinner of this association was held at the Garden Club, Imperial International Exhibition, on July 15th, Dr. Richard Paramore, the President, being in the chair. Dr. Oliver, as the guest of the evening, proposed the toast of "The Brussels Medical Graduates' Association." In responding to this toast the honorary secretary, Dr. Arthur G. Haydon, said that during the past year considerable progress had been made. The membership was increasing, particularly from the colonies. Every one of the recommendations of the council of the association had been carried out by the University of Brussels. He hoped to be able to organise the annual meeting and dinner next year in Brussels during the great Exhibition there of 1910. Dr. Major Greenwood (honorary treasurer) and Dr. W. E. Kirby (past President) also spoke. The officers elected for the ensuing year were:—President: Dr. Paramore. Vice-President: Mr. A. D. Cowburn. Honorary treasurer: Dr. Greenwood. Honorary secretary: Dr. Haydon.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Colour Tests in the Mercantile Marine.

On the motion of Lord MUSKERRY in the House of Lords, a return has been ordered showing the colour tests adopted by France, Germany, and the United States for the Mercantile Marine Services.

Metropolitan Ambulances Bill.

Sir WILLIAM COLLINS has obtained a second reading for the Metropolitan Ambulances Bill in the House of Commons. It is hoped that when the Bill goes before a committee further steps may be taken to decide whether the London County Council or the Metropolitan Asylums Board will be the authority charged with the administration of the ambulances.

Milk and Dairies (Scotland) Bill.

The Scotch Office has promised to give favourable consideration to a number of amendments which are suggested to the Milk and Dairies (Scotland) Bill. Lord PENTLAND, the Secretary for Scotland, received a deputation representing the corporation of Glasgow on July 16th and discussed with it points on which a strengthening of the provisions was desired. The members of the deputation suggested that certain ambiguities should be removed from Clause 13, which forbids the keeping of diseased animals along with healthy. They wanted to put a clear and effective check on the evasion of the Bill in regard to the disposal of tuberculous cows. They also asked that the medical officer in urgent cases of an outbreak of infectious disease should be empowered to make an interim order stopping the supply of milk from a suspected dairy. The corporation of Glasgow also desired to retain its powers under a local Act of dealing with the sale of milk from a farm or dairy at which infectious disease existed. Lord PENTLAND promised to give these points his favourable consideration. The deputation considered this reply satisfactory. One of the members of the deputation was Dr. A. K. CHALMERS, the medical officer of health of Glasgow.

The Milk Bill.

The Board of Agriculture does not intend to enforce its recent Tuberculosis Order until the Milk Bill becomes law. If the measure is again delayed the Order will probably be withdrawn.

HOUSE OF LORDS.

WEDNESDAY, JULY 14TH.

Milk and Dairies (Scotland) Bill.

Lord PENTLAND (Secretary for Scotland), in moving the second reading of the Milk and Dairies (Scotland) Bill, said that the measure was a consolidating Bill, and it also in some respects carried existing legislation a stage further. The existing law in Scotland was to be found in different statutes, but more particularly in the Burgh Police Act and the Public Health (Scotland) Act. These provisions, together with some new ones, were included in the present Bill. These provisions dealt with the supply of milk and the slaughter of tuberculous animals. The most important change was the registration of dairies in the district of each local authority. It was also made mandatory, and not optional, upon the local authorities to make by-laws regulating the carrying on of the business, for prescribing and regulating the structure, cleansing, drainage, &c., for securing the health of the cows and the cleanliness of the persons and clothing of those engaged in the business, and for prescribing precautions to be taken by dairymen against infection or contamination. The Bill also provided for the occasional inspection of dairies by a medical officer of health and for the inspection of the cattle by a veterinary surgeon. Penalties for offences were provided, and compulsory orders where necessary could be obtained by the local authority for regulating the milk business. These were the principal points in the Bill, and he was sure that their lordships would be in entire sympathy with the objects of the measure, which were to protect the great urban communities in regard to their milk supply. At the same time the object of the Bill was to impose upon the rural community obligations as little onerous as possible. He trusted, therefore, that their lordships would give the Bill a second reading, and as he was aware from representations made to him, there were many points of interest which required elucidation. He could say that in committee he would be glad on behalf of the Government to give the fullest consideration to any point raised or amendment moved.

The Earl of CAMPERDOWN said that he would not offer opposition to the Bill at this stage. There were, however, several points on which further information was desirable. As the Bill was framed it was doubtful whether it applied to dairies carrying on a dairy business or whether it applied equally to private dairies, and in the same way whether it applied to dairymen, cowkeepers, and every person having to do with cows. If so, it was evident that the inspection under the Bill would be almost without limit. He also pointed out that under Subsection 2 of Clause 13 power was taken with regard to the disposal of tuberculous cows, but if a cow was consigned to a person outside the district the medical officer of health was upon receipt of notice to communicate forthwith the facts to the medical officer of the district to

which it was intended to send the animal. If the noble lord would look at the Bill he would see that the owner of the cow was practically prohibited from parting with the animal, and that seemed to him to be inconsistent with the subsection. Another point on which he wanted to comment was that the examination and inspection of milk and butter were not applied to similar articles coming from abroad. He would put down amendments dealing with this matter at a later stage. He also pointed out that the whole expense of the compensation for the slaughter of tuberculous cows would fall upon the ratepayers. It had been said upon good authority that there were 200,000 or 300,000 tuberculous cows in the country which would come within the Tuberculosis Order of the Board of Agriculture. The result of the legislation would be a heavy charge on the rates, and he hoped the Government would be in a position to make a reassuring statement on this matter.

The Earl of CREWE said that he was surprised at the Earl of Camperdown's computation of the number of cattle at 200,000 or 300,000 which would have to be slaughtered under the Bill as tuberculous. Did the noble earl mean that these cows would come under the tuberculin test or that they were cows which should be slaughtered because they were so emaciated by disease that their milk would be contaminated? He did not believe that the number of the latter class would reach the total mentioned by the noble earl.

The Earl of CAMPERDOWN said that the computation was not his own. There were, however, a large number of tuberculous cows in the country. Everyone connected with agriculture knew that tuberculosis was very prevalent among cattle.

The motion for the second reading was agreed to.

HOUSE OF COMMONS.

THURSDAY, JULY 15TH.

Poor-law Medical Officers in Scotland.

Mr. CATHCART WASON asked the Lord Advocate whether he would grant a return relating to dismissals of Poor-law medical officers in Scotland and the trouble thereby entailed on the poor.—Mr. URE replied: If my honourable friend will move for a return in how many and in what parishes during the past three years Poor-law medical officers in Scotland have vacated office and what period in each case has elapsed before the appointments have been permanently refilled the Government will offer no opposition.

MONDAY, JULY 19TH.

Vaccination in London Casual Ward.

Mr. J. RAMSAY MACDONALD asked the President of the Local Government Board whether, on the night of July 13th, F. J. Wilson, after having been admitted to the City of London casual ward in Shoe-lane, was expelled because he refused to be vaccinated; whether such conduct was the rule at this ward; and whether the Local Government Board proposed to take any action on the matter.—Mr. BURNS replied: I have made inquiry and I am informed that a man named James Wilson was admitted to the casual wards on the 13th inst., was vaccinated without any complaint being made by him, and was discharged from the casual wards after the usual regulation period. I understand that it has been the custom at these wards for some years for persons admitted to the casual wards to see the medical officer on admission, and that unless they object he vaccinates them if necessary. The acting master states that he has never known a casual pauper to be ordered out or ejected for refusing to be vaccinated.

TUESDAY, JULY 20TH.

Fees for Vaccination Certificates.

Mr. TYSON WILSON asked the Secretary of State for the Home Department whether, in view of the fact that some justices of the peace charged a fee for signing an exemption from vaccination certificate, and that no fee was charged by others, he would, with the object of securing uniformity in the administration of the Vaccination Act, 1907, by circular or other means, inform the magistrates that they were not justified in charging a fee unless the services of the justices' clerk were utilised.—Mr. GLADSTONE (by written answer) replied: If the honourable Member will inform me of any cases in which justices have charged a fee for anything done by them in their magisterial capacity I will communicate with them. I do not, however, think that a general circular is called for, as I have no doubt that justices generally are properly informed on this subject.

Medical Examination of Postmen.

Sir WILLIAM COLLINS asked the Postmaster-General whether, in connexion with the employment of postmen on cycling duties, any additional duties in regard to medical examination of postmen to be so employed had been placed upon medical officers; and whether he would state what regulations the Post Office had laid down in regard to such examinations.—Mr. BUXTON wrote in reply: It has for some time past been a part of the duty of Post Office medical officers to examine postmen about to be employed on cycling duty. I have recently seen cause to extend this examination to men already employed on cycling duty, and to cause it to be repeated at intervals of four years. In order to ensure a searching and complete examination, a list of questions has been compiled for the use of medical officers, indicating those points which are of importance in the interest of the staff and of the public service.

WEDNESDAY JULY 21ST.

Germ-carriers in the Army.

Captain CLIVE asked the Secretary of State for War whether, seeing that treatment both with general and specific vaccine was now admitted to have failed, he could say when the supposed germ-carriers at Millbank Hospital would be released; and what compensation would be given them for detention, loss of promotion, &c.—Mr. HALDANE replied: Although the general and specific vaccines have not been successful in the urinary cases, another method of treatment is now being employed, and it is not proposed to discharge these men as medically unfit until every reasonable method of treatment has been tried. I may point out that these men are undergoing this special treatment in their own interests and in the interests of their comrades to whom, in their present state, they would be considered a danger. No question of compensation arises.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BHUTTACHARJI, J. C., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer and Public Vaccinator for the Lutterworth Union, Leicestershire.

BROWN, D. W., M.D., M.Ch. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Preston (West) District of the county of Lancaster.

BROWNE, F. J., M.B., B.Ch. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Abertillery District of the county of Monmouth.

DINGLE, H., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Barmouth District of the county of Merioneth.

GRIFFITH, WILLIAM, M.B., Ch.B. Vict., M.R.C.P. Lond., has been appointed Assistant Physician to St. John's Hospital for Diseases of the Skin.

JAMES, R. R., F.R.C.S., has been appointed Assistant Ophthalmic Surgeon to St. George's Hospital.

MAYNE, JOHN FITZGERALD, M.B., Ch.B. Edin., has been appointed Senior Resident Surgeon at Oldham Infirmary.

MCBRIDE, C. A., M.D., C.M. Tor., L.R.C.P., L.R.C.S. Edin., has been appointed Casualty Officer to St. John's Hospital for Diseases of the Skin.

WOOD, T., M.D., C.M. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Leith District of the county of Edinburgh.

WOODCOCK, LOUISA, M.D., B.S. Lond., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM, UNIVERSITY OF.—Chair of Zoology. Salary £600 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

CAMERON HOSPITAL, WEST HARTLEPOOL.—House Surgeon, unmarried. Salary £100 per annum, with board, rooms, and laundry.

CARSHALTON, SURREY, CHILDREN'S INFIRMARY.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Assistant Surgeon.

CHESHIRE, CROSSLEY SANATORIUM, Delamere Forest.—Assistant Medical Officer. Salary £100 per annum, with board, apartments, and laundry.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

DERBY BOROUGH ASYLUM.—Assistant Medical Officer. Salary £120 per annum, with board and washing.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £60 per annum, with board, residence, and washing.

DERBYSHIRE COUNTY COUNCIL.—Assistant Bacteriologist. Salary £150 per annum.

GLOUCESTERSHIRE, COTSWOLD SANATORIUM, near Stroud.—Assistant, unmarried. Salary £120, with all found.

HARRIS PARISH.—Medical Officer. Salary £126, with house.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Honorary Anæsthetist.

HULL ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon.

JERUSALEM MISSION HOSPITAL.—Junior Medical Officer.

KIRKBURTON, NEAR HUDDERSFIELD, STORTHES HALL ASYLUM.—Locum Tenens for two months. Salary £3 3s. per week, with board, lodging, and attendance.

LANCASTER, ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS, HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Mabel Webb Research Scholarship in Pathology, Physiology, or Chemistry. Value £30 per annum.

LURGAN UNION WORKHOUSE, Ireland.—Resident Medical Officer (female). Salary £80, with apartments and rations.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board and residence.

MANCHESTER, ANCOATS HOSPITAL.—Resident House Physician. Salary £80 per annum, with board, residence, &c.

METROPOLITAN ASYLUMS BOARD FEVER HOSPITALS.—Locum Tenens Assistant Medical Officers. Salary at rate of £180 per annum, with board, lodging, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer, also Assistant Resident Medical Officer. Salary in each case £50 per annum, with board and residence.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and laundry.

PERTH ROYAL INFIRMARY.—House Surgeon. Salary £60 per annum, with board.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, E.—House Surgeon, also House Physician, both for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ST. MARY, ISLINGTON, INFIRMARY, Highgate-hill, N.—Assistant Medical Officer. Salary £130 per annum, with board and residence,

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, and allowances.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

SUNDERLAND AND DURHAM COUNTY EYE INFIRMARY, Sunderland.—House Surgeon, unmarried. Salary £210 per annum.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

SUNDERLAND, MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser. Salary £80 and all found.

WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, attendance, &c.

Births, Marriages, and Deaths.

BIRTHS.

AITCHISON.—On July 18th, at Drayton-terrace, S.W., the wife of Charles U. Aitchison, M.D., of a son.

EGGELING.—On July 18th, at St. Leonards, Largo, the wife of William Eggeling, M.A., M.B., Ch.B., of a son.

GLOVER.—On July 19th, at 25, Highbury-place, N., the wife of J. Alison Glover, M.D., D.P.H., of a son.

HIGHET.—At Bangkok, Siam, on the 16th inst., the wife (*née* Emma Robinon) of H. Campbell Highet, M.D., D.P.H., Principal Medical Officer, Local Government, of a son.

NEWMAN.—On July 15th, at Windhill, Bishop's Stortford, the wife of J. C. Newman, F.R.C.S., of a daughter.

SMITH.—On July 14th, at Cleveleys, Redbourne-avenue, Church End, Finchley, the wife of Thomas Smith, M.R.C.S., L.R.C.P., of a son.

STREET.—On July 17th, at Cranfield, Woburn Sands, Beds., the wife of Albert Ernest Street, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

WOOLLEY.—On July 12th, at Claremont-road, Surbiton, the wife of Edward J. Woolley, M.D., of a son.

MARRIAGES.

AINSLIE—ROGERS.—On July 15th, at St. Paul's Church, Upper Norwood, William Ainslie, B.M., Ch.M., to Janet (Juanita), only daughter of Mrs. Helen Rogers, of 5, Mowbray-road, Upper Norwood, and the late James Rogers, of Santiago, Chili.

DEATHS.

BATTEN.—On the 15th July, 1909, at Brunswick-square, Gloucester, Rayner Winterbotham Batten, M.D. Lond., F.R.C.P., in his 75th year.

BROWN.—At the Edinburgh Hydropathic, Craiglockhart, on the 14th inst., William Brown, F.R.C.S.E., Consulting Medical Officer of Health for the City of Carlisle.

HARTLEY.—On July 15th, at Bishop's Stortford, Charles Hartley, M.R.C.S., aged 60 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL HEROES OF ITALY'S "RISORGIMENTO."

FOR more than a month the Italian kingdom has been celebrating the jubilee of her "Risorgimento" (political resurrection), and, quite regardless of the wounded *amour propre* of her Austrian "consorella" in the Triple Alliance, nay, with an effusive delight in the commemoration, she has been resuscitating the heroic deeds of her sons in the campaign of 1859, when, with the help of France, she drove the hated Tedescho out of Lombardy and set the ball rolling which never rested till, from its perch on the Capitol, it looked down on an Italy free and united from the Alps to Etna. A conspicuous place of honour in that mighty movement she has reserved for her medical sons, whose deeds of heroism in ambulance and hospital, nay, on the stricken field itself, are for all time engraven on her heart—

"Monumentum aere perennius."

If, according to Carlyle, Mazzini sacrificed to the Revolution one of the very finest literary faculties of the nineteenth century, not less true is it that Agostino Bertani devoted to the medico-military service of the patriotic arms a genius for surgery which, in the "cloistered calm" of the University clinique, might have fructified in professional conquests, surpassing even those of his master Panizza, or of Panizza's master Scarpa. Even in the few years allotted to him after the fall of the Temporal Power and the consummation of his country's ideal Bertani gave proof of his hygienic sagacity and initiative in his masterly "Codice Sanitario," which, to her inestimable profit, Italy is steadily utilising in city and in commune. A Milanese by birth, though of Mantuan origin, he was one of a phalanx of medical men to whom a grateful country has just dedicated a commemorative "immortelle"—an album issued by the "Milano Sanitario" to preserve the names of those surgeons and physicians of Lombard, and more especially of Milanese, parentage who gave up their lives and future prospects to the cause of the motheriand. But for this memorial young Italy would be ignorant of the personality and career of many a brilliant graduate in medicine whose work in the improvised hospital or on the battlefield under fire was as unselfish as it was effective—recognising no distinction between Italian, French, or Austrian among the wounded, and only suspended by the collapse of the worker himself, succumbing to fatigue when not the victim of a hostile bullet. Some notion of that work may be formed when we read that in Milan alone from June 6th to July 31st, 1859, there were under treatment 25,568 sick and wounded from the battlefield, including 14,641 French, 3790 Italians, and 7137 Austrians—not forgetting the fact that on June 5th there were already in the various hospitals of Milan 2066 local patients. Of the soldiers who left the wards "cured" or transferred in convalescence to other resorts, there were 10,399 French, 391 Italians, and 5935 Austrians; while there died 1591 in all—that is, 815 French, 31 Italians, and 745 Austrians. Still surviving among the Milanese surgeons who took part in this service, many of them, happily, still active for the public good, are the Cavaliere Dr. Ferdinando Calderini, colonel of the reserve; Dr. Malachia de Cristoforis, senator of the kingdom; the Cavaliere Dr. Felice dell' Acqua, emeritus physician-in-chief to the municipality; the Commendatore Dr. Rocco Gritti, emeritus head physician of the Ospedale Maggiore; Dr. Paolo Mantegazza, senator of the kingdom, professor of anthropology in the Istituto de' Studi Superiori in Florence; Dr. Amilcare Ricordi; Dr. Emilio Sozzani; the Cavaliere Achille Visconti, emeritus clinician-in-chief of the Ospedale Maggiore; and the Commendatore Giuseppe Candiani, pharmaceutical chemist and founder and president of the Casa dei Veterani of Turate. "We have made Italy," said Cavour's successor Massimo D'Azeglio in 1860; "we have now to make Italians!" Of that second creation Italy need never despair if only she remain true to her nobler traditions and follow in the steps of those practitioners of the healing art who, dead or still surviving, contributed so effectively to her "Risorgimento," political and social, scientific and professional.

THE TRUTH ABOUT ST. HELENA AS A HEALTH AND HOLIDAY RESORT.

IN a recent official report to the Colonial Office the Governor of St. Helena (Lieutenant-Colonel H. L. Gallwey, C.M.G.) has thought it advisable to deprecate what he considers the exaggerated claims put forward by injudicious well-wishers in regard to the supposed advantages of the island as a holiday resort. The most alluring inducements, observes Colonel Gallwey, are being held out by these people through the columns of the English newspapers as to St. Helena's advantages. Among those claimed are a splendid climate, cheap hotels and boarding-houses, comfortable houses at a low rent, and so on. They even go so far as to state that St. Helena possesses some of the finest golf links in the world. The kindness which prompts St. Helena's well-wishers in England to promote the colony's interests is fully appreciated, but it is generally recognised that more harm than good must result from misrepresentation, which can

only lead to disappointment among any persons who might decide to visit the colony on the strength of such unwarranted inducements. It would serve the island's interests better if only facts were stated. These facts are that the climate is very healthy, and, although in the tropics, that of the highlands is very temperate and never too hot. There is not a single hotel in the island, and the so-called boarding-houses in Jamestown might at a pinch accommodate half a dozen people. There are no boarding-houses in the country, where visitors would require accommodation. There are about six untenanted houses which could be leased at reasonable rents, half of which are either unfurnished or only partly furnished. "Some of the finest golf links in the world" must be taken as referring to the one golf course of nine holes, there being no suitable site for a second course in the island. His Excellency is of the opinion that if visitors were forthcoming boarding-houses would soon spring up. It is not to be expected, however, that such establishments will be started on chance. As things stand at present, accommodation for more than a very few visitors does not exist, and any persons proposing to visit the colony would be wise to ensure beforehand that the accommodation they require is both suitable and available. Visitors, too, must be prepared to find the island somewhat dull. There are few diversions by day and practically none by night. Taking it all round, the island's advantages, as far as holiday and health seekers are concerned, lie almost entirely in its healthy climate. This estimate of the island is in the Governor's own words, and we think it well to repeat his warning.

THE SALE OF FOOD AND DRUGS ACT AT BRISTOL.

WE have received a copy of the report of the public analyst and bacteriologist of the city and county of Bristol (Mr. Edward Russell, B.Sc., F.I.C.) for the year ending Dec. 31st, 1908. The report is divided into three sections: (1) Food and drugs work; (2) bacteriology; and (3) miscellaneous analyses. The bacteriological section refers for the most part to pathological work undertaken in connexion with cases of diphtheria, tubercle, and enteric fever. There are, however, recorded some special inquiries, amongst which attention is given to the straining cloth used by milkmen and to cream, both of which gave evidence of bacillus coli. The number of examinations made in this section was 5764. Under the Food and Drugs Acts 1303 samples were examined. The figures show a slight increase in the adulteration rate in Bristol, which is contributed chiefly by milk. Out of 101 samples, of which 36 proved to be watered, 64 samples were found to be deficient in fat. As regards preservatives, the use of salicylic acid in several samples of aerated beverages is noted.

THE COMPLETE ANTIVIVISECTIONIST.

THE following letter from Sir George W. Kekewich addressed to the editor of the *Daily News* appeared in the issue of that paper for July 17th, under the heading "Doctors and Vivisection."

> SIR,—In a recent issue of the *Daily News* there appears a letter from a Mr. Porter, of St. Luke's Hospital for the Insane, who says that at the anti-vivisection meeting in Hyde Park on Saturday last he challenged a statement of mine to the effect that vivisection made medical men callous, and that they experimented on persons in hospitals, who, of course, usually belong to the working class. He challenged it, according to the newspapers, by calling upon me to substantiate my dirty, blackguardly lies—he states in his letter in milder language that I was unable to substantiate my "statement" by evidence. He now asks for facts.
>
> Sir, I am not going to fall into that trap; names and places would mean actions for libel, backed by most of the medical profession. But it is matter of common knowledge that such things as I mentioned do take place, though of course infrequently. I do not wish it to be understood that I make any accusation of the kind against the great mass of men in one of the most arduous and honourable of professions.
>
> If Mr. Porter desires evidence, I may, however, refer him to a pamphlet entitled "Human Vivisection: A Statement and an Enquiry," published at Chicago, U.S.A., by the American Humane Association, of 560, Wabash-avenue.
>
> He will there find ample evidence that the statement I made is founded on fact,
>
> Yours &c.,
>
> G. W. KEKEWICH.

We will leave this effusion to speak for itself, only reminding our readers of the famous lawsuit of Bayliss *v.* Coleridge, a case in which a judge and jury were asked to examine a specific charge of cruelty made against a scientific investigator by an opponent of humanitarian progress. We would add that agitators, to command success, need courage as well as wind.

THE MEDICAL MISSION AUXILIARY.

Mercy and Truth, the official organ of the Medical Mission Auxiliary of the Church Missionary Society, in its issue for July contains, in addition to the usual reports from the various foreign stations, the annual report of the work of the auxiliary during the year 1908-09. The value of medical mission work is now generally admitted, though medical missions do not receive the financial support which they undoubtedly deserve. Although the Medical Mission Auxiliary is able to report an increase in its receipts and a balance of £3707 after the payment of expenses, it is with regret that we notice that this balance has to be accounted for "by reductions imposed upon the missionaries in the field." Men who risk their lives in the service of humanity in unhealthy foreign climates should receive the most generous treatment from those who send them forth in the name of charity. The difficulties and hardships of medical missionary life can scarcely be realised by those whose knowledge is obtained from annual reports and lectures, or the work would be more heartily supported. The cost of supporting a bed in a Church Missionary Society's hospital in India, Persia, Palestine, or Egypt is £10 per annum; in China or East Africa, £5. Cheques should be crossed and made payable to Mr. R. Maconachie, Church Missionary House, Salisbury-square, London, E.C.

COMPENSATION FOR A KELOID.

IN the City of London Court on July 19th, before Judge Lumley Smith, K.C., a boy, 15 years old, sued the Great Eastern London Motor Omnibus Company, Limited, to recover damages for an unusual cause. It appeared that as he was crossing King William-street one of the defendants' motor omnibuses, going, it was said, at a "most reckless pace," struck him to the ground. It dragged him a considerable distance, and his leg was injured. The boy was taken to Guy's Hospital, where he was detained for many weeks, and treated by skin grafting. This, however, was not successful, and keloid had supervened; the boy's knee was contracted, and it was feared that he would never be able again to follow any occupation because of the keloid condition. Medical evidence was given that the plaintiff's disease was incurable and that it might be tuberculosis. Nobody really knew what keloid was. Two medical men, called for the defence, admitted that the disease was not curable; but they considered that the plaintiff's condition was not so serious as had been depicted. Ultimately the plaintiff agreed to accept £75 as compensation.

"INFORMING THE POLICE."

Mr. G. F. Roumieu, the coroner for West Surrey, had something to say at a recent inquest, near Godalming, on the question of medical men giving information to the police. The case was one in which a servant girl had wilfully poisoned herself. A medical man was called in and attended the girl until her death 12 hours after she had taken the poison, of which event the lady of the house informed the police nine hours later. The coroner said that he believed there was a strong feeling in the medical profession against giving information to the police, but there was a common law obligation upon every citizen in such circumstances to inform the police, whose duty it was to inform the coroner. If a person attempted to take his life it was an offence, a common law misdemeanour, whether the attempt was successful or not, and the police ought to be informed. In the event of a person dying this was obligatory. The police should be informed as quickly as possible in such cases, because it was their duty before anything was moved to take the evidence as to the surrounding conditions and everything that might throw light upon the death. In this particular instance no blame attaches to the medical man, who ceased his attendance on a trying case after midnight, because he omitted to call on the police before proceeding home, and doubtless the whole household was too upset by the occurrence to take the proper steps at once. But it is well for medical men to bear in mind that in such cases the police must be informed promptly, especially as in such tragic situations the medical attendant is often the man to whom friends or relatives turn for immediate guidance beyond the actual treatment of the patient.

AN INCORRIGIBLE PARENT.

IN an annotation last week we reported the death of an infant at Brighton from overlying by a notoriously drunken mother. We learn that the woman was again brought before the Brighton magistrates on July 19th—nine days after the proceedings in the coroner's court—charged with being drunk while in charge of a child aged three years and four months. The magistrates probably had not forgotten the proceedings before the coroner's court on July 10th, the woman's first appearance at the police-court only a few days before the child's death on the charge of neglecting her children, nor her record of eight previous convictions—several for a similar offence. On this occasion a policeman found the woman leaning against a wall at half-past ten in the morning in such a condition of drunkenness as to be quite incapable of taking care of the child she had with her. It is satisfactory to note that the magistrates realised the seriousness of the offence in this case, and sentenced the woman to one month's hard labour. But considering all the circumstances the sentence does not err on the side of severity.

Fairplay.—We cannot express any opinion as to the legality of such proxies, but we are clear that the request for them should never have been sent out. The rules of the government of the infirmary are intended to provide equal chances to all competitors for a vacant post, and the use of private information to secure premature support for one candidate cannot be approved of. Canvassing appears not to be forbidden by the rules, and the amount to which it is employed must be left to individual taste. The probability is that the General Medical Council would not consider the matter one suitable for their notice.

Mr. W. G. Walford is thanked for his interesting communication.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College 2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (31st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index to Vol. I. of 1909, which was completed with the issue of June 26th, and the Title-page to the volume, were given in THE LANCET of July 3rd.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1909 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 22nd, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 16	29·89	S.W.	0·32	81	66	55	56	57	Raining
,, 17	30·04	S.W.	0·13	117	74	57	62	65	Cloudy
,, 18	30·21	S.W.	...	129	78	60	63	68	Cloudy
,, 19	30·26	N.W.	...	125	75	58	59	65	Fine
,, 20	30·25	W.	...	126	77	55	55	61	Fine
,, 21	29·92	S.W.	...	89	70	59	59	62	Raining
,, 22	29·80	S.W.	...	108	69	59	59	63	Cloudy

Communications, Letters, &c., have been received from—

A.—Dr. W. D. Anderson, Oban; Armstrong College, Newcastle-on-Tyne, Secretary of; Professor H. B. Allen, Melbourne; Messrs. Allen and Hanburys, Lond.; Ancoats Hospital, Manchester.

B.—Dr. W. R. Bates, Ilkley; Messrs. Bates, Hendy, and Co., Lond.; Mr. T. Bell, Lancaster; Mr. H. Birmingham, Goulburn, New South Wales; Birmingham University, Secretary of; B. A.; Mr. G. S. Bigg, Lond.; Messrs. J. Barker and Co., Lond.; Mr. J. A. Barth, Leipzig; Mr. R. T. Bourne, Manchester; Mr. R. W. Burkitt, Sylhet; *British Medical Journal*, Lond., Editor of; Messrs. Baillière, Tindall, and Cox, Lond.; Bombay, Secretary to Government of; Messrs. Blundell and Rigby, Lond.; British Fire Prevention Committee, Secretary of.

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I.—International Congress on Alcholism, Secretary of.

J.—Dr. O. Jennings, Le Vesinet.

K.—Dr. Catherine Kirk, Kilsyth; Messrs. Kutnow and Co., Lond.; Dr. J. Knott, Dublin; Messrs. R.A. Knight and Co., Lond.; Dr. J. R. Kaye, West Riding, Yorks.

L.—Literary Year-book, Editor of; Mr. D. Ligat, Hastings; London School of Medicine for Women, Secretary of; Mr. J. Lane, Lond.; Lurgan Union, Clerk of; Leeds Hospital for Women and Children, Secretary of.

M.—Mr. J. McCloy, Glasgow; Dr. G. P. Mills, Lond.; Dr. K. W. Monsarrat, University of Liverpool; Dr. A. S. Morley, Lond.; Monkwearmouth and Southwick Hospital, Secretary of; Manchester Medical Agency, Secretary of; Manchester Hospital for Consumption, Secretary of; Macclesfield General Infirmary, Secretary of; Medical-Psychological Association, Lond., Secretary of; Mr. K. V. G. Menon, Tellicherry; Dr. H. W. G. Macleod, Lond.; Mr. D. Martinez, Bucaramanga; Maltine Manufacturing Co., Lond.; Rev. E. H. Mosse, Lond.; Dr. J. S. Morrow, Belfast; Messrs. Meyer and Meltzer, Lond.; Messrs. Meister, Lucius, and Bruning, Lond.; Mr. W. Martindale, Lond.; Mr. W. J. Melhuish, Upper Parkstone; Messrs. Mackeson and Co., Hythe.

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